

MVC-FD71

SERVICE MANUAL

Self Diagnosis
Supported model

Ver 1.3 2000. 09
With SUPPLEMENT-1
(9-974-076-81)



*US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
Hong Kong Model
Tourist Model*
**Digital
Mavica**

SPECIFICATIONS

System

Image device	1/4-inch CCD
Lens	f=4.2 - 42 mm (40 - 400 mm, when converted into a 35 mm still camera) F1.8 - 2.9
Exposure control	Automatic exposure
White balance	Automatic
Data compression	Standard JPEG
Memory	Floppy disk: 3.5 inch 2HD MS-DOS format (1.44 MB)
Flash	Recording distance limitations: 1 5/8 - 8 1/3 ft. (0.5 - 2.5 m)

LCD screen

Screen size	2.5 inch
LCD panel	TFT
Total dot number	84260 dots

General

Application	Sony battery pack NP-F330/F530/F550
Power requirements	7.2 V (battery pack)
Power consumption (During shooting)	3.0 W
Operation temperature	32°F to +104°F (0°C to +40°C)
Storage temperature	-4°F to 140°F (-20°C to 60°C)
Dimensions	Approx. 5 2/5 x 4 1/8 x 2 1/2 in. (137.5 x 103 x 62 mm) (w/h/d)
Mass	Approx. 20 4/5 oz. (590 g) (including battery pack NP-F330, lithium battery CR2025, floppy disk, shoulder strap and lens cap)
Supplied accessories	See page 7.

Design and specifications are subject to change without notice.

DIGITAL STILL CAMERA



SONY®

• **Floppy disk that can be used by the MVC-FD71**

- Size : 3.5-inch
- Type : 2 HD
- Capacity : 1.44 MB
- Format : MS-DOS format
(512 bytes × 18 sector)
(FD can be formatted by the MVC-FD71)

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

**ATTENTION AU COMPOSANT AYANT RAPPORT
À LA SÉCURITÉ!**

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
 - Keep the temperature of the soldering iron around 270°C during repairing.
 - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
 - Be careful not to apply force on the conductor when soldering or unsoldering.

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* The color reproduction frame is shown after the page of ELECTRICAL PARTS LIST.

SERVICE NOTE

[Discharging of the FLASH unit's charging capacitor]

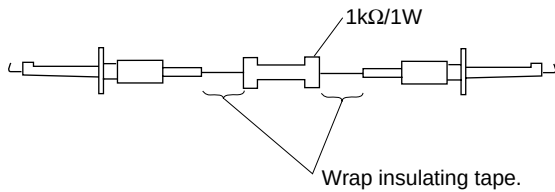
The charging capacitor of the FLASH unit is charged up to the maximum 300 V potential.

There is a danger of electric shock by this high voltage when the battery is handled by hand. The electric shock is caused by the charged voltage which is kept without discharging when the main power of the MVC-FD71 is simply turned off. Therefore, the remaining voltage must be discharged as described below.

Preparing the Short Jig

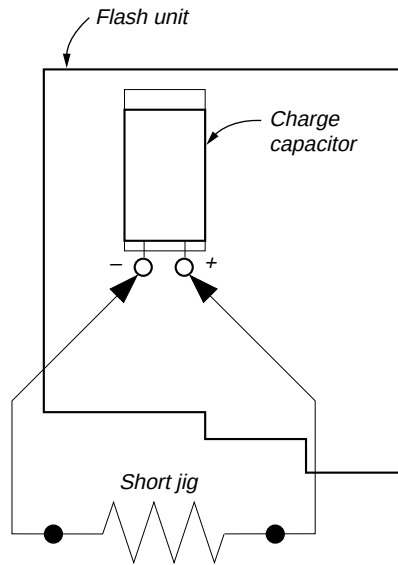
To preparing the short jig, a small clip is attached to each end of a resistor of 1k Ω /1W (1-215-869-11)

Wrap insulating tape fully around the leads of the resistor to prevent electrical shock.



Discharging the Capacitor

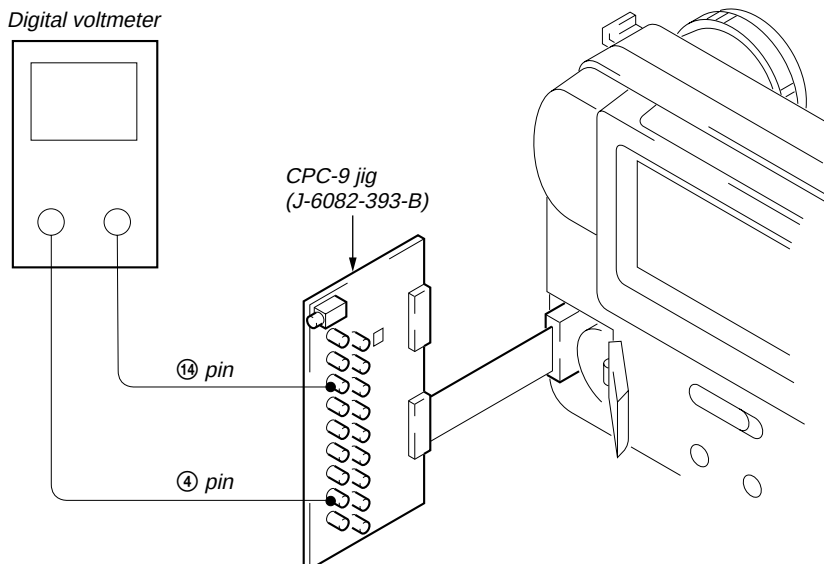
Short-circuit between the positive and the negative terminals of charged capacitor with the short jig about 10 seconds.



[LCD type judging method]

The LCD type can be judged by measuring resistance between ④ pin and ⑭ pin of CPC-9 jig.

Resistance	LCD Type
10 k Ω	SHARP
0 Ω	CASIO



[How to connect the extension cable]

- 1) Remove the PK-43 board and the liquid crystal indication module. (See page 2-2E.)

Note : Be careful not to break the flexible board of the floppy disk drive.

- 2) Install the Extension cable (J-6082-427-A) on the rear cabinet. (See Fig. 1.)

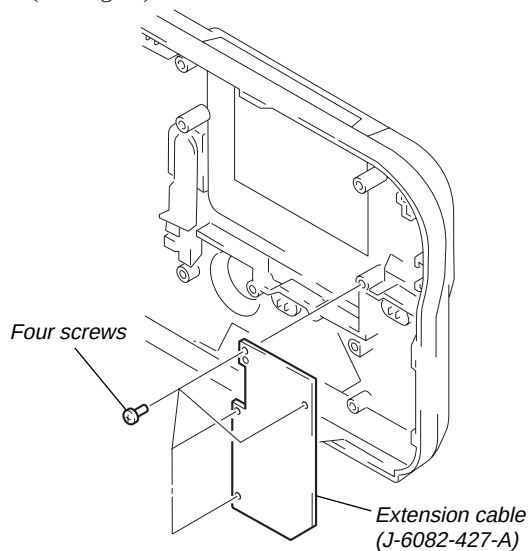


Fig. 1

- 3) Install the floppy disk drive. (See Fig. 2.)

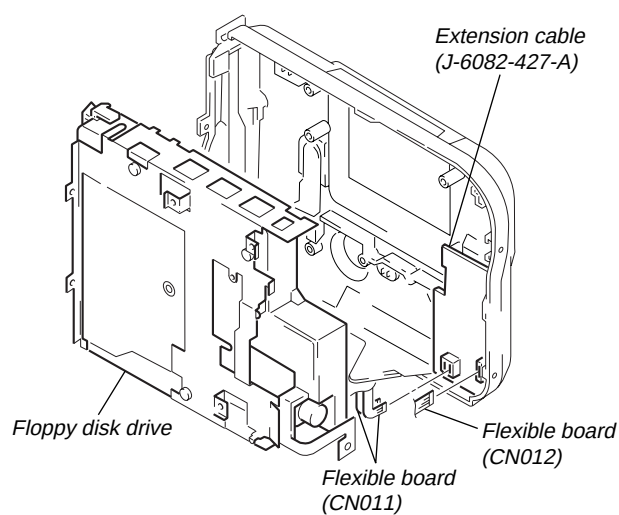


Fig. 2

- 4) Open the lithium lid. (See Fig. 3.)
- 5) Mount the flexible board on CN013. (See Fig. 3.)

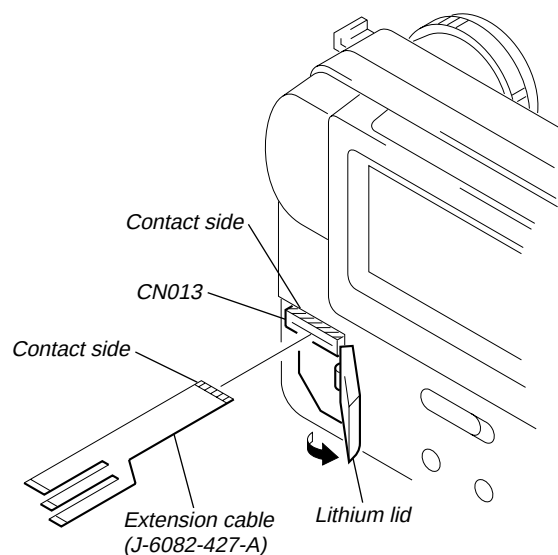


Fig. 3

- 6) Install the PK-43 board. (See Fig. 4.)

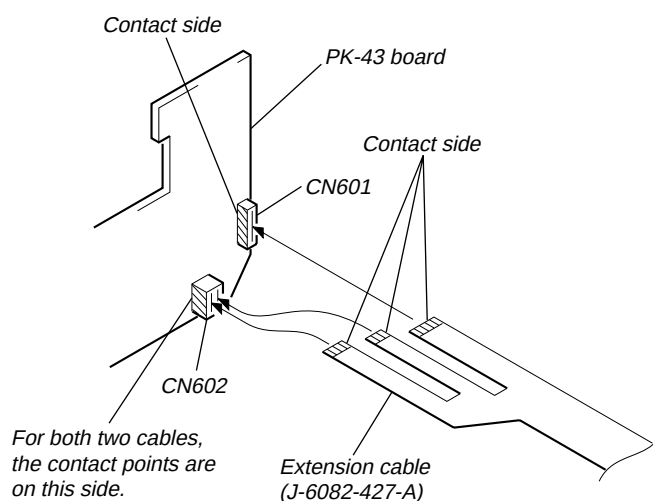


Fig. 4

Note : The floppy disk drive and PK-43 board could be destroyed unless the flexible board is connected normally to the connector. (See Fig. 5.)

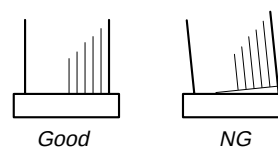
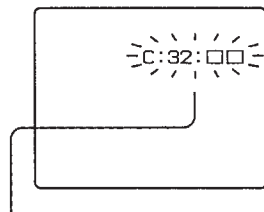


Fig. 5

[Description on Self-diagnosis Display]

Self-diagnosis display

The camera has a self-diagnosis display. This function displays the camera condition with five-digits (a combination of a letter and figures) on the LCD screen. If this occurs check the following code chart. The five-digit display informs you of the camera current condition. The last two digits (indicated by □□) will differ depending on the state of the camera.



Self-diagnosis display

- C: □□: □□
You can reverse the camera malfunction yourself.
- E: □□: □□
Contact your Sony dealer or local authorized Sony service facility.

Note : The “Self-diagnosis” data is backed up by the coin lithiumbattery. The data will be lost and initialized when the coin lithium battery is removed.

Display Code	Countermeasure	Cause	Caution Display During Error
C:32:01	Change the disk and turn off the main power then back on.	Defective floppy disk.	DRIVE ERROR
C:13:01	Replace the floppy disk. Format the floppy disk with the MVC-FD71.	- The type of floppy disk that cannot be used by this machine, is inserted. (Such as 2DD) - Data is damaged. - Unformatted disk is inserted.	DISK ERROR
E:91:01	Checking of flash unit or replacement of flash unit	Abnormality when flash is being charged.	Flash LED Flash display Flashing at 3.2 Hz
E:61:00	Checking of lens drive circuit	When failed in the focus initialization.	—
E61:10			

[Power supplying Method]

Use the AC power adaptor (BC-V615) when supplying the power to this set.

SECTION 1 GENERAL

This section is extracted from instruction manual.

Be sure to read before using your camera

Trial recording

Before you record one-time events, you may want to make a trial recording to make sure that the camera is working correctly.

No compensation for contents of the recording

Contents of the recording cannot be compensated for if recording or playback is not made due to a malfunction of the camera, floppy disk, etc.

Precaution on copyright

Floppy disk, television programs, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provision of the copyright laws.

- IBM PC/AT is a registered trademark of International Business Machines Corporation of the U.S.A.
- MS-DOS and Windows are registered trademarks licensed to Microsoft Corporation, registered in the U.S.A. and other countries.
- Netscape Navigator is a trademark of Netscape Communications Corporation.
- Macintosh is a trademark licensed to Apple Computer, Inc., registered in the U.S.A. and other countries.
- All other product names mentioned herein may be the trademarks or registered trademarks of their respective companies.

Furthermore, "TM" and "®" are not mentioned in each case in this manual.

Before using your camera

This digital still camera uses a floppy disk as media. Use the following floppy disk type.

- Size: 3.5 inch
- Type: 2HD
- Capacity: 1.44 MB
- Format: MS-DOS format (512 bytes × 18 sector)

When using 3.5 inch, 2HD floppy disk other than described above, format it using the camera or personal computer.

Do not shake or strike the unit

Malfunctions, inability to record images as well as inability to use floppy disks or image and memory data breakdown, damage or loss may occur.

Do not get the unit wet

When taking pictures outdoors in the rain or under similar conditions, be careful not to get the unit wet. If moisture condensation occurs, refer to page 35 and follow instructions on how to remove it before using.

Back up recommendations

To avoid the potential risk of data loss always copy (back up) data to disk.

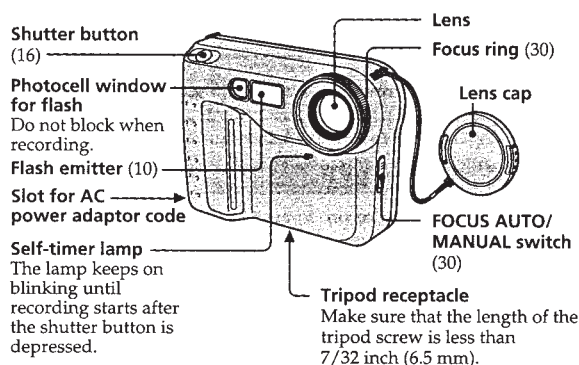
Supplied accessories

Digital still camera (1)	Battery charger (1)
Power cord (1 set)	NP-F330 battery pack (1)
Shoulder strap (1)	Lens cap (1)

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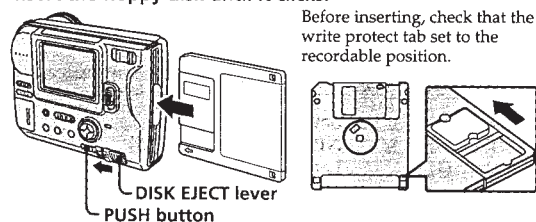
Parts identification

See pages in () for more details.



To insert the floppy disk

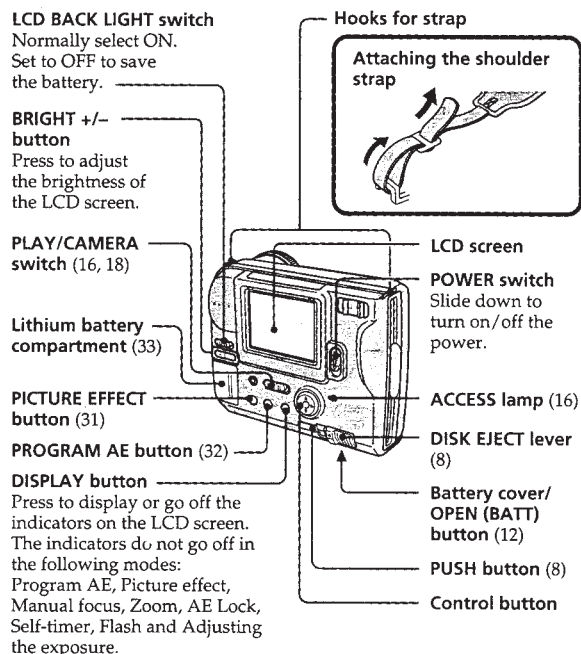
Insert the floppy disk until it clicks.



To remove the floppy disk

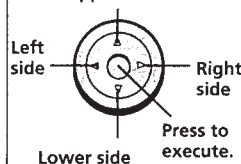
While pressing PUSH, slide DISK EJECT in the direction of the arrow.

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Control button

Upper side



Function of the control button

You can execute the functions by pressing the upper, lower, left or right side of the control button. When an item is selected in the menu, the color of the item changes from blue to yellow. To enter your selection, press the center of the control button.

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Zoom lever

"T" side: for telephoto (subject appears closer)

"W" side: for wide-angle (subject appears farther away)

Move the zoom lever to the "W" side until the focus is sharp.

You can shoot a subject that is at least about 3 1/4 feet (about 100 cm) away from the lens surface in the telephoto position, or about 1/2 inch (about 1 cm) away in the wide-angle position.

Photocell window for LCD screen

The LCD screen becomes brighter when exposed to sunlight.

FLASH CHARGE lamp

Flash button

AUTO is set at the factory.

Each time you press the button, the flash mode changes as follows:

AUTO (no indication) → forced-flash → no flash → AUTO

In AUTO mode, the flash goes off automatically according to the brightness of the surroundings.

The subject must be 1 5/8 feet to 8 1/3 feet (0.5 m to 2.5 m) away.

When you record using the flash and conversion lens (not supplied), an eclipse may occur.

Self-timer

Select " with the control button, then press it.

About 10 seconds after you press the shutter button, the subject is recorded.

Exposure

Select " or " on the LCD screen with the control button, then press it to select the desired value.

+EV: To raise the exposure value (brighten the picture)

-EV: To lower the exposure value (darken the picture)

Adjustable in a range of -1.5 EV to +1.5 EV in steps of 0.5 EV.

Preparation

1 Charging the battery pack

To charge the battery pack, use the battery charger. For details, refer to the instruction manual of the battery charger.

- 1 Connect the power cord to a wall outlet.

- 2 Insert the battery pack in the direction of the mark. Slide it down until it clicks.

CHARGE lamp (orange)
The CHARGE lamp (orange) lights up. Charging begins.

Battery charger

To remove the battery pack

Slide up the battery pack.

Charging time

Battery	Full charge*	Normal charge**
NP-F330	210 min.	150 min.
NP-F530	225 min.	165 min.
NP-F550	240 min.	180 min.

Approximate minutes to charge an empty battery pack using the battery charger BC-V615. (Lower temperatures require a longer charging time.)

* Charging for about one hour after the CHARGE lamp goes out.

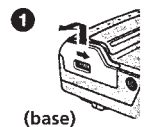
** Charging just until the CHARGE lamp goes out.

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⇒ Preparation

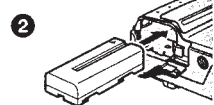
2 Installing the battery pack



(base)

Open the battery cover.

While sliding OPEN (BATT) in the direction of the arrow.



Install the battery pack.

Insert the battery pack with the mark facing toward the battery compartment.



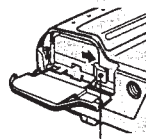
Close the cover.

Press the cover until it clicks.

To remove the battery pack

Open the battery cover. While sliding the battery release lever rightward, remove the battery pack.

Be careful not to drop the battery pack when removing.



Remaining battery time indication

This camera shows on the LCD panel how many minutes you can still keep on recording or playing back images*. Note, however, that the time might not be displayed correctly under some use conditions or in some environments.

* The time displayed during recording or during playback refers to the time for which the battery lasts if you simply keep the camera on or if you simply keep it displaying images without performing any operation.

Auto power-off function

During recording if you leave the camera inactive for about 3 minutes while the power is on, the camera turns off automatically to prevent wearing down the battery.

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About the power source

This camera can be powered from the following two power sources:

- Sony InfoLithium battery* NP-F330 (supplied)/F530 (not supplied)/F550 (not supplied)
- AC power adaptor AC-V700 (not supplied)

When you use the camera for a long time, we recommend you to power the camera from a wall outlet with the AC power adaptor.

* "InfoLITHIUM" battery pack

The "InfoLITHIUM" is a lithium ion battery pack which can exchange data with compatible equipment about its battery consumption.

"InfoLITHIUM" is a trademark of Sony Corporation.

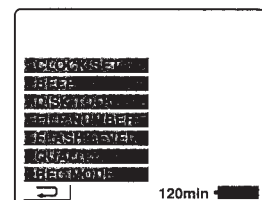
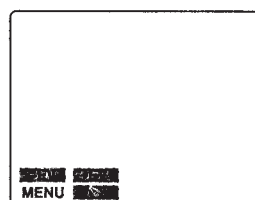
3 Setting the date and time

When you use the camera first, set the date and time.

The date and time data are necessary for MS-DOS format recording. If they are not set, incorrect date and time are recorded, and CLOCK SET screen in step ③ appears whenever you turn on the camera in CAMERA mode.

- 1 Slide POWER down to turn on the power.

- 2 Select "CLOCK SET" in MENU with the control button, then press it.

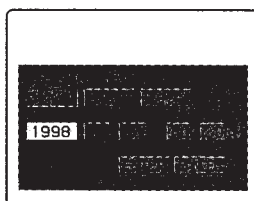


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⇒ Preparation

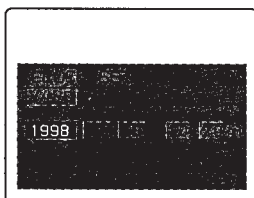
- 3 Select the desired display of the date with the control button, then press it.**

Y/M/D (year/month/day)
M/D/Y (month/day/year)
D/M/Y (day/month/year)

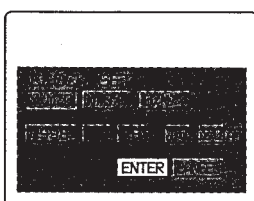


- 4 Select the date and time with the control button, then press it.**

The item to be changed is indicated with ▲/▼. Select number by pressing the upper side or lower side of the control button, then press it to enter the number.
After entering the number, ▲/▼ moves to the next item.
When "D/M/Y" is selected, set the time on a 24-hour cycle.



- 5 Select "ENTER" with the control button, then press it at the desired moment to begin clock movement.**

**To cancel setting the date and time**

Select "CANCEL" with the control button, then press it.

Note

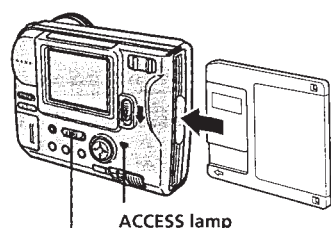
If the "⚡" indicator appears on the LCD screen, replace the lithium battery according to the procedures on page 33.

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Recording and playing back images**1 Recording images**

To record the images, slide POWER down to turn on the power and insert the floppy disk until it clicks.



1 Set PLAY/CAMERA to CAMERA.

- 2 Press the shutter button halfway down.**

The AE lock indicator ● (green) appears. AE (auto exposure), AWB (auto white balance) and AF (auto focus) are frozen.

- 3 Press the shutter button fully down.**

The image is recorded on the disk.

The number of images you can record on a floppy disk

About 25 – 40 images with all default settings. (p. 24)

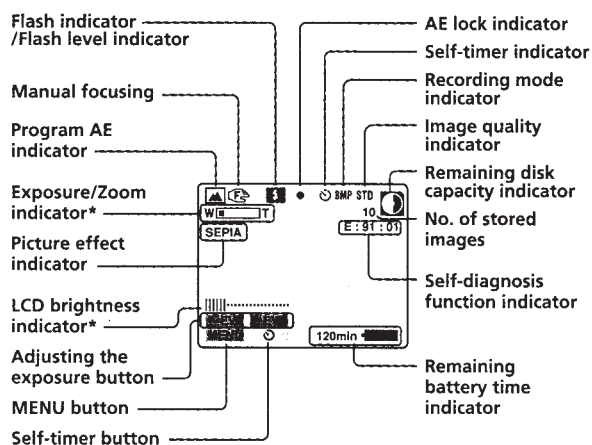
Note

When the image is recorded on the disk, the ACCESS lamp flashes. When the ACCESS lamp is flashing, never shake or strike the unit. As well do not turn the power off or remove the battery pack or floppy disk. Otherwise, the image data breakdown may occur and the floppy disk may become unusable.

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The indicators during recording

The indicators on the LCD screen are not recorded.



* Only displayed during operation.

Functions you can use for image recording

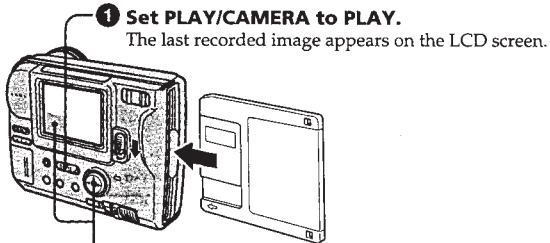
Adjusting the brightness of the LCD screen (p. 9)
Flash (p. 10)
Zoom (p. 10)
Self-timer (p. 10)
Adjusting the exposure (p. 10)
Focusing manually (p. 30)
Picture effect (p. 31)

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Selecting the recording mode – REC MODE (p. 23)
Selecting the image quality – QUALITY (p. 25)
Selecting the flash level – FLASH LEVEL (p. 25)
Selecting the file numbering mode – FILE NUMBER (p. 25)

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2 Playing back images on the LCD screen

To watch the recorded images, slide POWER down to turn on the power and insert the floppy disk until clicks.



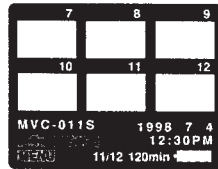
2 Select the recorded image with the control button.

Select the button on the LCD screen with the control button, then press it.

- : To display the preceding recorded image.
- : To display the next image.
- INDEX** : To display 6 recorded images at a time (INDEX screen)

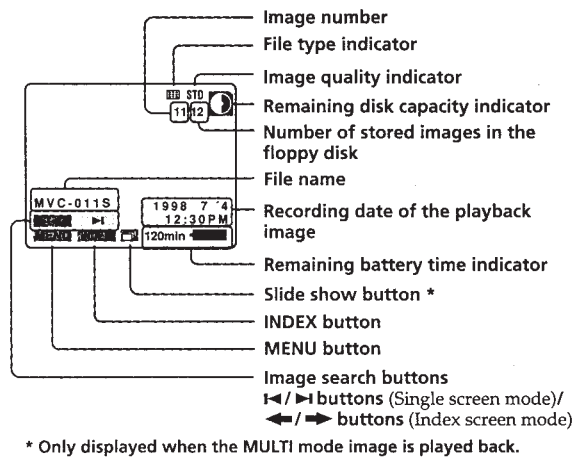
In INDEX screen mode

- : To display the preceding 6 images.
- : To display the following 6 images.



- To return to the normal playback screen (SINGLE screen), select an image with the control button, then press it.
- The number displayed at the upper right side of the image shows the recording order on the disk. It is different from the file name (p. 24).

The indicators during playback



Functions you can use for playback of recorded images

- Adjusting the brightness of the LCD screen (p. 9)
- Playing back recorded images like an animated slide show (p. 23)
- Protecting images – PROTECT (p. 26)
- Copying recorded images to another floppy disk – COPY (p. 27)
- Deleting images – DELETE (p. 28)

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Battery life/No. of images that can be recorded/played back

Battery		Battery life (min.)	No. of images (record/playback)
NP-F330 (Supplied)	Continuous recording		
	Unusing the flash ¹⁾	70 (60)	950 (850)
	Using the flash ²⁾	60 (50)	600 (500)
	Continuous playing ³⁾	110 (100)	1700 (1500)
NP-F530	Continuous recording		
	Unusing the flash ¹⁾	130 (110)	1750 (1500)
	Using the flash ²⁾	120 (100)	1200 (1000)
	Continuous playing ³⁾	230 (200)	3400 (3000)
NP-F550	Continuous recording		
	Unusing the flash ¹⁾	150 (130)	2000 (1750)
	Using the flash ²⁾	130 (110)	1300 (1100)
	Continuous playing ³⁾	250 (220)	3700 (3250)

Approximate battery life and No. of images that can be recorded/played back under the temperature of 77°F (25°C), in NORMAL recording mode and STANDARD quality mode. Numbers in parentheses indicate the time when you use a normally charged battery.

- ¹⁾ Recording at about 4 second intervals
- ²⁾ Recording at about 6 second intervals
- ³⁾ Playing back single image at about 4 second intervals
- Battery life and No. of images will be decreased if you use the camera in a cold environment or while you repeat turning the power on/off and zooming.
- The capacity of a floppy disk is limited. The above figures are a guide when continuously recording/playing back while replacing the floppy disks.

Viewing images using a personal computer

The image data recorded with this camera is compressed in JPEG format. This data can be viewed using a personal computer which has JPEG view ability application installed such as Microsoft Internet Explorer. For detailed procedures using image data with an application, refer to the personal computer instruction manual.

Example: personal computer installed Windows 95

- 1 Start up personal computer and insert the floppy disk into the disk drive of the personal computer.**
- 2 Open "My computer" and double click "3.5 inch FD".**
- 3 Double-click the desired data file.**

Recommended OS/applications example

OS

Windows 3.1, Windows 95 or later, Windows NT 3.51 or later, etc.

applications

Microsoft Internet Explorer, Netscape Navigator etc.

Note

- For Macintosh, you can use the floppy disk recorded with this camera using the PC Exchange with Mac OS system 7.5 or higher. A viewing application for Macintosh is also necessary for viewing images.
- Opening non-compressed images recorded in BITMAP mode (p. 23, 24) requires an application program designed to view bitmapped images.

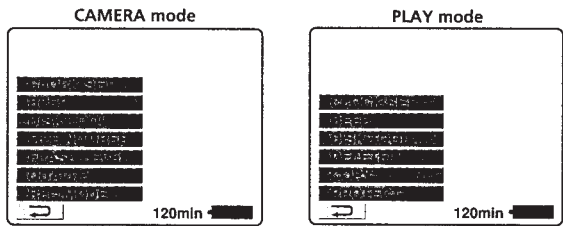
20-EN

21-EN

Changing the mode settings

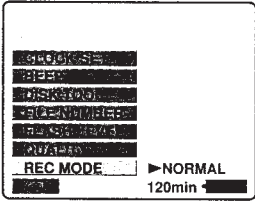
1 Select "MENU" with the control button, then press it.

The menu appears on the LCD screen.



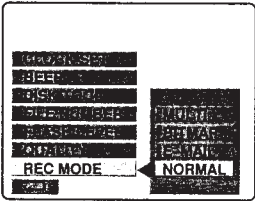
2 Select desired item with the control button, then press it.

When an item is selected, the color of the item changes from blue to yellow.



3 Change the setting with the control button, then press it.

When the setting is finished, the menu screen returns to the screen of step 1.



To cancel changing the mode settings

Press the left side of the control button. The screen returns to the menu screen. To cancel menu screen, select " " with the control button, then press it.

Setting the mode of each item

* is set at the factory.

Items in CAMERA mode

REC MODE <NORMAL*/E-MAIL/BMP BITMAP/MULTI>

- Normally select NORMAL. A JPEG file (640 x 480) is recorded.
- Select E-MAIL to record a 1/4-size (320 x 240) JPEG file besides a 640 x 480 JPEG file. E-mail files are suitable for e-mail transmission, etc. because they contain compressed data.
- Select BITMAP to record a non-compressed image besides a JPEG file. This is good for recording images in clearer detail.
- Select MULTI to record in the Multi-Image Continuous Recording mode. In this mode, Images are continuously recorded as 1 file each at a rate of about 1 every 0.25 seconds. In PLAY mode, if you select " " on the LCD screen with the control button, the images will be played back continuously like an animated slide show (Only once).
When playing back on another machine, only 1 image will be displayed.

Advanced operations

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⇒ Changing the mode settings

Recording mode	Recorded file	File name (ex.)	No. of images that can be recorded	
			STANDARD	FINE
NORMAL	JPEG (640 x 480)	001S.JPG	25 - 40	15 - 20
	For index screen	001S.411		
E-MAIL	JPEG (640 x 480)	001S.JPG	20 - 35	12 - 15
	JPEG (320 x 240)	001E.JPG		
	For index screen	001S.411		
BITMAP	non-compress (640 x 480)	001S.BMP	1	1
	JPEG (640 x 480)	001S.JPG		
	For index screen	001S.411		
MULTI	JPEG (960 x 720)	001M.JPG	10 - 15	
	For index screen	001S.411		

Notes

- The file data for index screen is available only on this camera.
- If you attempt to record 55 images or above, "DISK FULL" appears on the LCD screen and you cannot record the image even when the remaining disk capacity indicator is not emptied.
- 1/4-size E-mail files are stored in another folder. The compression ratio is standard and does not depend on the image quality settings.
- A remaining capacity of about 1MB is needed when recording in BITMAP mode. After recording the BITMAP picture, "DISK FULL" appears on the LCD screen.
- In MULTI mode, the program AE, picture effect and focus are fixed to the selected mode and effect, respectively, and the flash is kept OFF. The focus may not be right if the zoom is operated. The compression ratio is standard and does not depend on the image quality settings.
- During playback of a series of images recorded in MULTI mode, the first image of the nine is displayed one-size smaller than the other normal-sized images.
- The images recorded in MULTI mode cannot be played back correctly by MVC-FD5/FD7/FD51/FDR1/FDR3.
- When the remaining disk capacity indicator flashes, image data cannot be recorded.

QUALITY <STANDARD*/FINE>

- Select STANDARD as a standard image quality.
- Select FINE when giving priority to image quality.

FLASH LEVEL <HIGH/NORMAL*/LOW>

- Set to make the flash level higher than normal.
- Normally select NORMAL.
- Set to make the flash level lower than normal.

FILE NUMBER <NORMAL*/SERIES>

- Select NORMAL to reset the numbering of files each time the floppy disk is changed.
- Select SERIES to put numbers to files in sequence even if the floppy disk is changed.

DEMO MODE <STANDBY/ON* or OFF>

Only when you use the AC power adaptor (not supplied), DEMO MODE appears in the menu.

- Select ON to make the demonstration appear. The demonstration will start about 10 minutes after the power is turned on if the camera has not been operated.
- Select OFF to deactivate the demonstration mode.

Note

To stop the demonstration, turn off the camera.

Advanced operations

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25-EN

⇒ Changing the mode settings

Items in PLAY mode

PROTECT

Select this item to protect a displayed image(s) from being deleted by mistake.

To protect or unprotect an image file, select the desired option from the menu while the image is displayed on the LCD screen.

In SINGLE screen mode

<ON/OFF*>

- Select ON to protect displayed image.
- Select OFF to release protection of the image.

In INDEX screen mode

<ALL/SELECT>

- Select ALL to protect all the images on the floppy disk.
- Select SELECT to protect selected images.

① Use the control button to display the red ► mark at the image you want to protect.

The selected image number reverses color. To cancel selection, press the control button again. The image number returns to normal.

② Select "ENTER" with the control button, then press it.

► appears on the upper left side of the image.

To cancel protection of the images in INDEX screen mode, select the images you want to cancel protection in step ①, then press the control button.

The "►" indicator at the upper left side of the image disappears.

When you have finished the cancelling, select "ENTER" with the control button, then press it.

To cancel protecting image, select "CANCEL" with the control button, then press it. The screen returns to the menu screen.

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⇒ Changing the mode settings

4 Once copying is completed, the message "COMPLETE" is displayed.

To copy images to another floppy disk, select "CONTINUE" with the control button and repeat the operations in steps 2 through 4 above.

To discontinue copying, select "EXIT" with the control button.

Notes

- When you copy to the floppy disk which is a small remaining capacity, "DISK FULL" may appear on the LCD screen.
- To discontinue copying on a floppy disk halfway (in the middle of the above steps from 1 through 4), turn off the camera.

DELETE

Select this item to delete a displayed image(s)

To delete an image(s), select the desired delete option from the menu while the image(s) is displayed on the LCD screen.

In SINGLE screen mode

<OK/CANCEL>

- Select OK to delete displayed image.
- Select CANCEL to cancel deleting image.

In INDEX screen mode

<ALL/SELECT>

- Select ALL to delete all the images on the floppy disk.
- Select SELECT to delete selected images.

① Use the control button to display the red ► mark at the image you want to delete.

The selected image number reverses color. To cancel selection, press the control button again. The image number display returns to normal.

② Select "ENTER" with the control button, then press it.

To cancel deleting image, select "CANCEL" with the control button, then press it. The screen returns to the menu screen.

Notes

- Once you delete an image, you cannot restore it. Check the images to delete carefully before deleting them.
- Even when you select "ALL", you cannot delete the protected image.
- When you select "SELECT", you cannot select a protected image.

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COPY

Select this item to copy a displayed image(s) to another floppy disk. To copy an image(s), select the desired copy option from the menu while the image(s) is displayed on the LCD screen.

In SINGLE screen mode

<OK/CANCEL>

- Select OK to copy displayed image.
- Select CANCEL to cancel copying image.

In INDEX screen mode

<ALL/SELECT>

- Select ALL to copy all the images on the floppy disk.
- Select SELECT to copy selected images.

① Use the control button to display the red ► mark at the image you want to copy.

The selected image number reverses color. To cancel selection, press the control button again. The image number display returns to normal.

② Select "ENTER" with the control button, then press it.

To cancel copying image, select "CANCEL" with the control button, then press it. The screen returns to the menu.

To copy to another floppy disk

1 In SINGLE screen mode, select "OK". Or In INDEX screen mode, select "ALL", then "OK" or select "SELECT", then carry out steps ① and ② above.

"CHANGE FLOPPY DISK" will be displayed.

2 Eject the floppy disk.

"INSERT FLOPPY DISK" will be displayed.

3 Insert another floppy disk until you hear it click.

"DISK ACCESS" will be displayed.

Items for both CAMERA and PLAY modes

DISK TOOL <FORMAT/DISK COPY>

- Select FORMAT to format the floppy disk loaded in the camera.
- Select DISK COPY to copy all data stored in a floppy disk to another.

To copy all data stored in a floppy disk to another

1 Select "DISK COPY", then "OK".

"FILE ACCESS" will be displayed.

2 When "CHANGE FLOPPY DISK" is displayed, eject the floppy disk.

3 When "INSERT FLOPPY DISK" is displayed, insert another disk.

"DISK ACCESS" will be displayed.

4 Once copying is completed, the message "COMPLETE" is displayed.

Notes

- In the middle of the above steps from 1 through 4, turn off the camera.
- Formatting erases all information on the floppy disk, and with copying disk, all information saved on the recipient floppy disk are erased to be replaced by newly written data including the protected image data. Check the contents of the disk before formatting and copying disk.
- Be sure that the battery is fully charged when formatting and copying a floppy disk. Formatting and copying takes about 1 minutes maximum.
- Be sure to use the formatted floppy disk to carry out DISK COPY.

BEEP <ON*/OFF>

- Normally select ON.
- Select OFF to turn the beep sound off.

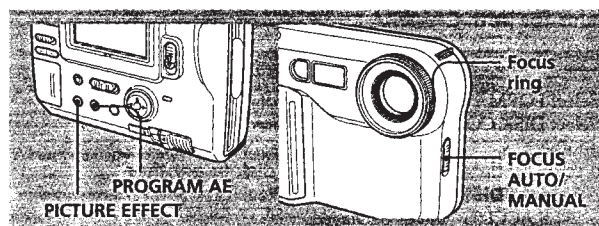
CLOCK SET

Select this item to set the date and time. See page 13.

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Using various functions for recording



Focusing manually

1 Set AUTO/MANUAL to MANUAL.

appears on the LCD screen.

2 Turn the focus ring to achieve a sharp focus.

The position marked indicates the area in focus.

To reactivate auto focusing, set AUTO/MANUAL to AUTO.

Notes

- When recording in relatively dark environment, it is recommended to record after focusing manually, or set PROGRAM AE to Panfocus mode.
- When you focus manually in dark environment “” may not be displayed.

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⇒ Using various functions for recording

Using the PROGRAM AE function

You can select one of five PROGRAM AE (Auto Exposure) modes to suit your shooting situation, referring to the following.

Press PROGRAM AE repeatedly to select the desired PROGRAM AE mode.

Soft Portrait mode

Creates a soft background for subjects such as people or flowers, and faithfully reproduces skin color.

Sports Lesson mode

For recording fast-moving subjects such as in tennis or golf games.

Beach & Ski mode

For people or faces in strong light or reflected light, such as at a beach in midsummer or on a ski slope.

Sunset & Moon mode

For recording subjects in dark environments such as sunsets, fireworks, neon signs, or general night views.

Landscape mode

For distant subjects such as mountains or when recording a subject behind an obstacle such as a window or screen.

Panfocus mode

For recording close or distant subjects quickly and simply. Or, for recording with flash in a dark place where it is hard to bring the camera into focus.

To cancel PROGRAM AE

Press PROGRAM AE repeatedly until the indicator on the LCD screen goes out.

Notes on focus settings

- You cannot take close-ups in Sports Lesson and Beach & Ski modes.
- You can focus only on distance subjects in Sunset & Moon and Landscape modes.
- In Panfocus mode, the zoom position and focus are fixed.

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Enjoying Picture Effect

Press PICTURE EFFECT repeatedly to select the desired picture effect mode.

- NEG. ART:** The color and brightness of the picture is reversed.
- SEPIA:** The picture is sepia.
- B&W:** The picture is monochrome (black and white).
- SOLARIZE:** The light intensity is more clear, and the picture looks an illustration.

To cancel picture effect

Press PICTURE EFFECT repeatedly until the indicator on the LCD screen goes out. When you turn the power off or set PLAY/CAMERA to PLAY, the picture effect is automatically cancelled.

Changing the lithium battery in the camera

When the lithium battery becomes weak or dead, the “” indicator flashes on the LCD screen. In this case, replace the battery with a Sony CR2025 or Duracell DL-2025 lithium battery. Use of any other battery may present a risk of fire or explosion. When installing the lithium battery, keep the battery pack attached. Otherwise, you will need to reset the date and time retained by the lithium battery.

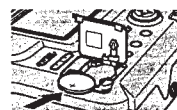
1 Slide the lid of the lithium battery compartment and open it.



2 Push the lithium battery once and push it out from the holder.



3 Install the lithium battery with the positive (+) side facing out.



4 Close the lid.



WARNING

The battery may explode if mistreated. Do not recharge, disassemble, or dispose of in fire.

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

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Precautions

On cleaning

Cleaning the LCD screen

Wipe the screen surface with a LCD cleaning kit (not supplied) to remove fingerprints, dust, etc.

Cleaning the camera surface

Clean the camera surface with a soft cloth slightly moistened with water. Do not use any type of solvent such as alcohol or benzene as it may mar the finish of the casing.

Using the camera on a sandy beach or in a dusty place

Do not let sand get into the camera. Sand or dust may cause the unit to malfunction, and sometimes this malfunction cannot be repaired.

Concerning floppy disks

To protect data recorded on floppy disk, note the following:

- Avoid storing floppy disks near magnets or magnetic fields such as those of speakers and televisions, permanent erasure of disk data may result.
- Avoid storing floppy disks in areas subject to direct sunlight or sources of high temperature, such as a heating device. Floppy disk warping or damage may result, rendering the disk useless.
- Avoid contact with the disk's surface by opening the disk shutter plate. If the disk's surface becomes blemished, data may be rendered unreadable.
- Avoid getting liquids on the floppy disk.
- Be sure to use a floppy disk case to ensure protection of important data.
- Use only a 2HD type disk head cleaner when cleaning the disk drive.
- Even when you use a 3.5 inch 2HD floppy disk, image data may not be recorded and/or displayed depending on the using environment. In this case, use other brand disks.

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Troubleshooting

Should any problem persist after you have made those checks, consult your nearest Sony dealer. If "C: □□: □□" appears on the LCD screen, the self-diagnosis function has worked. See page 38.

Symptom	Cause and/or Solution
The camera does not work.	• The camera does not operate when using a battery pack that is not an "InfoLITHIUM" battery pack. → Use an "InfoLITHIUM" battery pack. (p. 13) • The floppy disk is not installed properly. → Remove the disk and reinstall it. (p. 8)
You cannot record images.	• PLAY/CAMERA is not set to CAMERA. → Set it to CAMERA. (p. 16) • The tab on the disk is set to the writing impossible position. → Set it to the writing possible position. (p. 8)
The picture is noisy.	• The camera is placed near a TV or other equipment that uses strong magnets. → Place the camera away from the TV, etc.
The picture is too dark.	• You are shooting a subject with the light source behind the subject or light is insufficient. → Adjust brightness of the image. (p. 9) • The LCD screen is adjusted too dark. → Adjust brightness. (p. 9)
Incorrect date and time are recorded.	• The date and time are not set. → Set the date and time. (p. 13)
Vertical streaks appear when shooting a very bright subject.	• The smear phenomenon. → The camera is not malfunctioning.
The battery life deteriorates too fast.	• The ambient temperature is too low. • Charging of the battery pack is not enough. → Charge the battery pack fully. • The battery pack has served its time. → Replace the battery pack with a new one.

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Operational temperature recommendations

This camera's operational temperature is between 32°F to +104°F (0°C to +40°C). Do not use this camera in extreme climates outside the operational temperature range.

Moisture condensation

If the camera is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense inside or outside the camera. Should this occur, the camera will not operate properly. In this case, remove the floppy disk, turn off the camera, and wait about an hour for the moisture to evaporate.

To prevent moisture condensation

When bringing the camera from a cold place to a warm place, put the camera in a plastic bag and allow it to adapt to room conditions over period of time.

- ① Be sure to tightly seal the plastic bag containing the camera.
- ② Remove the bag when the air temperature inside it has reached the temperature surrounding it (about 1 hour).

Notes on lithium battery

- Keep the lithium battery out of the reach of children. Should the battery be swallowed, immediately consult a doctor.
- Wipe the battery with a dry cloth to assure a good contact.
- Do not hold the battery with metallic tweezers, otherwise a short-circuit may occur.
- Note that the lithium battery has a positive (+) and a negative (−) terminals. Be sure to install the lithium battery so that terminals on the battery match the terminals on the camera.

Additional information

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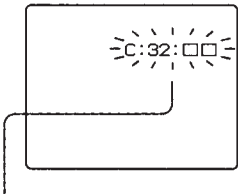
Symptom	Cause and/or Solution
Zoom does not work.	• Panfocuss mode in PROGRAM AE is working. → Cansel it.
You cannot play back the images.	• PLAY/CAMERA is not set to PLAY. → Set it to PLAY. (p. 18) • The battery is dead. → Use a charged battery pack.
You cannot delete an image.	• The image is protected. → Cancel the protection of the image. (p. 26)
The power turns off automatically.	• If you leave the camera inactive in CAMERA mode for about 3 minutes while the power is on, it turns off automatically to prevent wearing down the battery. → Turn the power on.

Additional information

37-EN

Self-diagnosis display

The camera has a self-diagnosis display. This function displays the camera condition with five-digits (a combination of a letter and figures) on the LCD screen. If this occurs check the following code chart. The five-digit display informs you of the camera current condition. The last two digits (indicated by □□) will differ depending on the state of the camera.



Self-diagnosis display

- C: □□: □□
You can reverse the camera malfunction yourself.
- E: □□: □□
Contact your Sony dealer or local authorized Sony service facility.

First three digits	Cause and/or Corrective Action
C:32:□□	• Trouble is with the disk drive. →Turn the power off and on again.
C:13:□□	• The unformatted disk is installed. →Format the disk. (p. 29) • The unusable disk with the camera is installed. →Change the disk. (p. 8)
E:91:□□ E:61:□□	• A camera malfunction which you can not reverse has occurred. →Contact your Sony dealer or local authorized Sony service facility and inform them of the five digits. (example: E:61:10)

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⇒ Specifications

Warning messages

Various messages appear on the LCD screen. Check them with the following list.

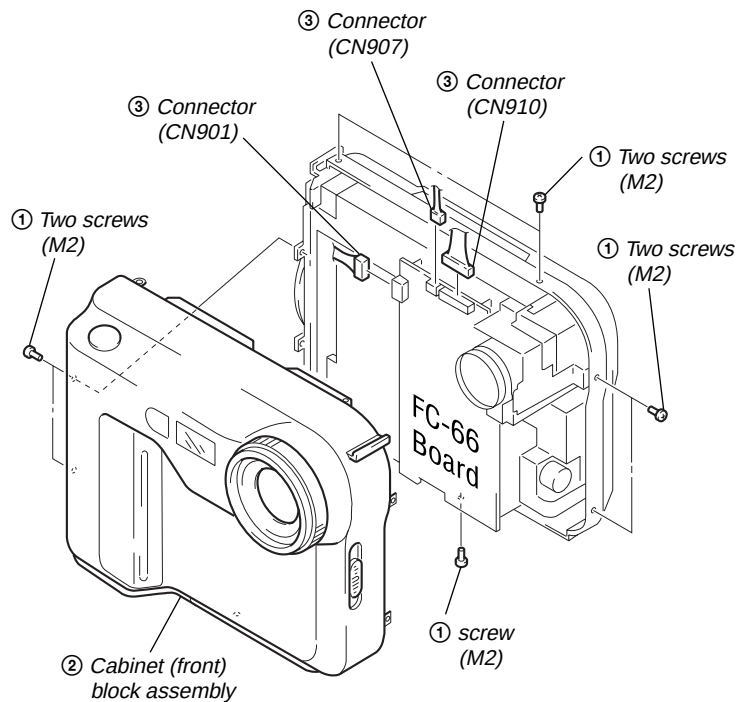
Message	Meaning
DRIVE ERROR	Trouble is with the disk drive.
NO DISK	No disk has been inserted.
DISK ERROR	Trouble is with the disk. Or the floppy disk loaded is not MS-DOS formatted (512 bytes x 18 sectors).
DISK PROTECT	The tab on the disk is set to the writing impossible position.
DISK FULL	The disk is full.
NO FILE	No image has been recorded on the disk.
FILE ERROR	Trouble has occurred during playback.
FILE PROTECT	The image is protected.
⚡	The battery is weak.
🔋	The lithium battery is weak or is not installed.

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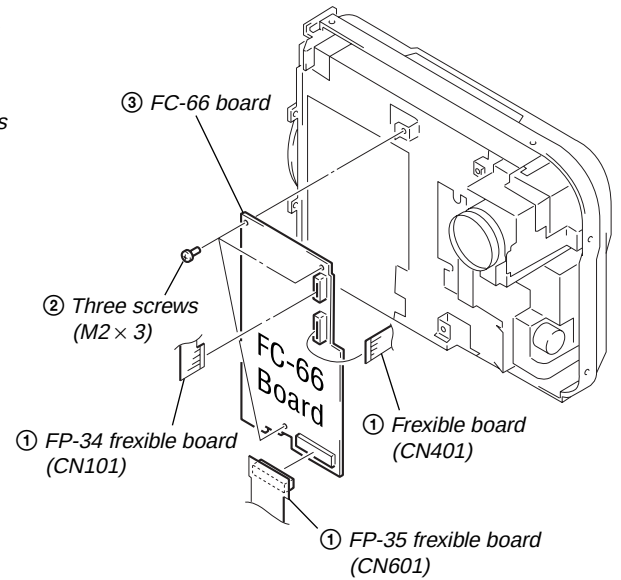
SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

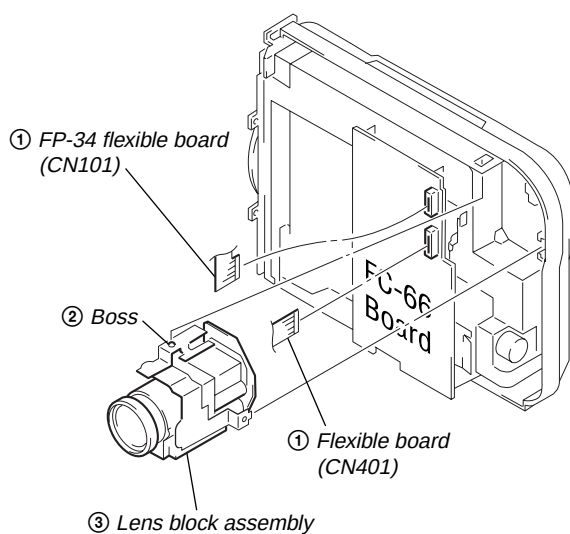
2-1. CABINET (FRONT) BLOCK ASSEMBLY



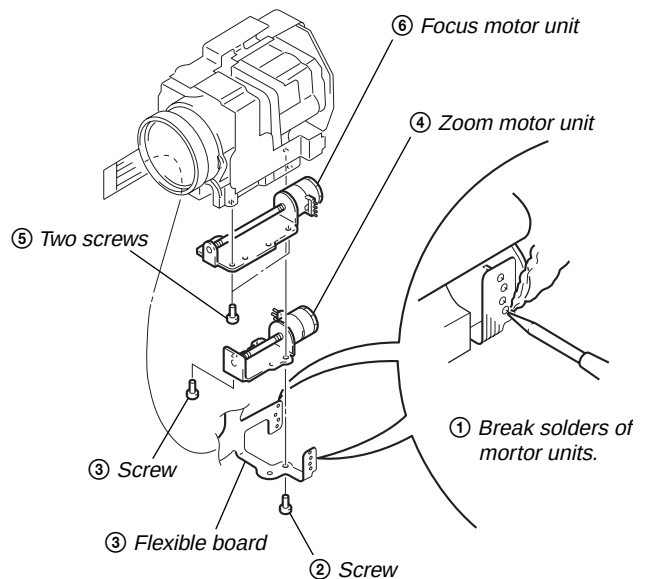
2-2. FC-66 BOARD



2-3. LENS BLOCK ASSEMBLY

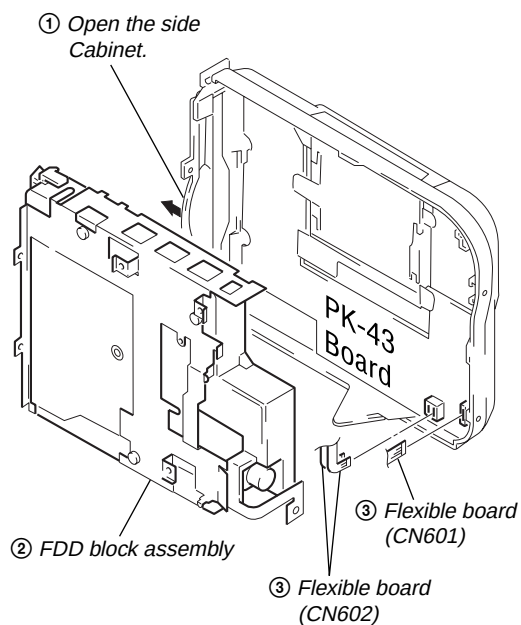


2-4. MOTOR UNITS

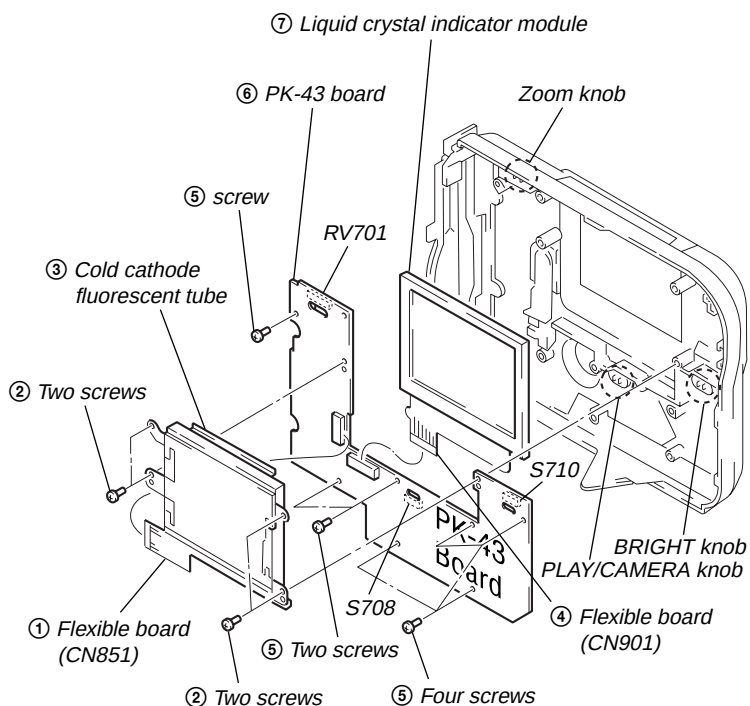


Note: Flexible board of zoom lens is not supplied.
Please be careful not to break the flexible board when you change the motor unit.

2-5. FDD BLOCK ASSEMBLY

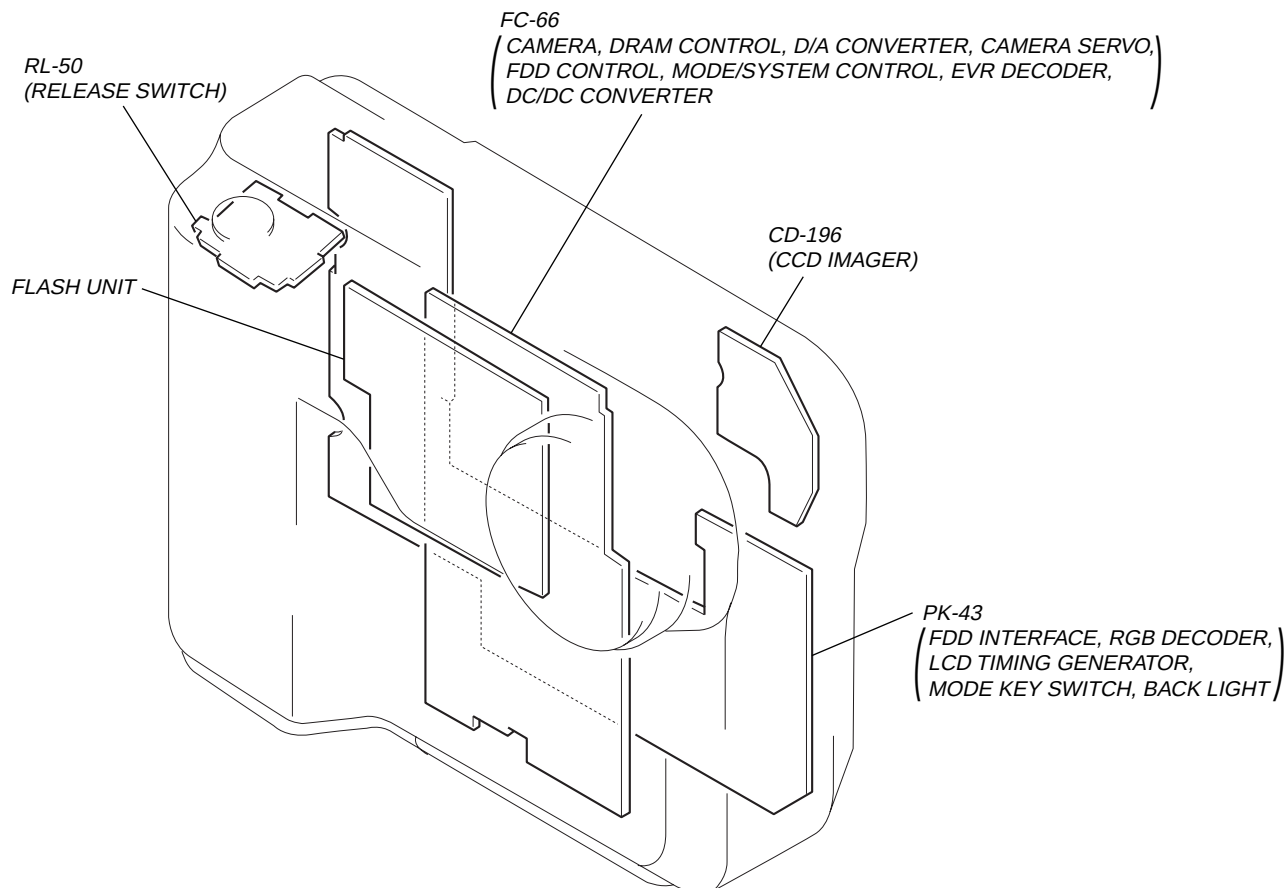


2-6. PK-43 BOARD, LIQUID CRYSTAL INDICATOR MODULE



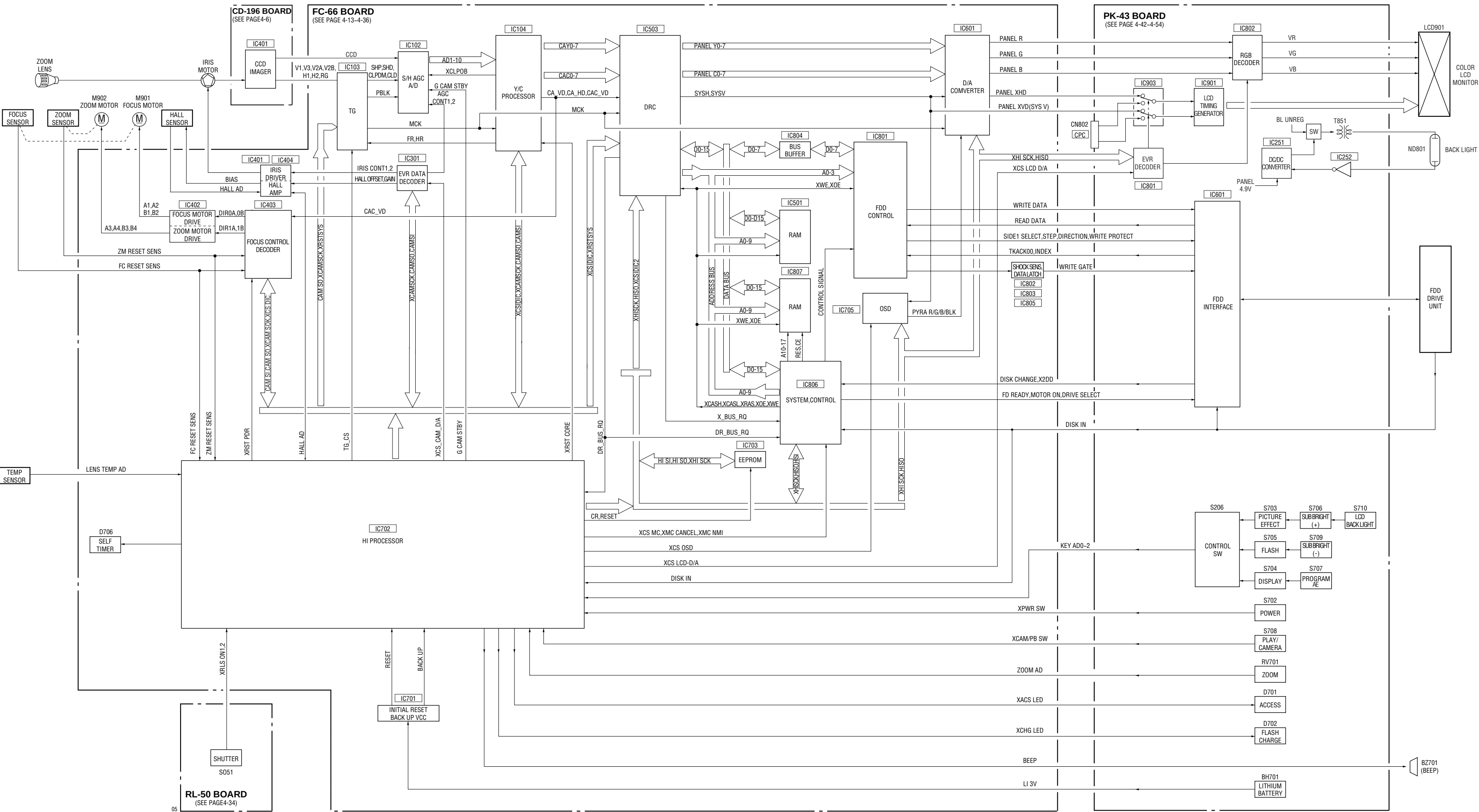
Note: When installing PK-43 board, connect RV701 with zoom knob, S708 with PLAY/CAMERA knob and S710 with BRIGHT knob.

2-7. CIRCUIT BOARDS LOCATION

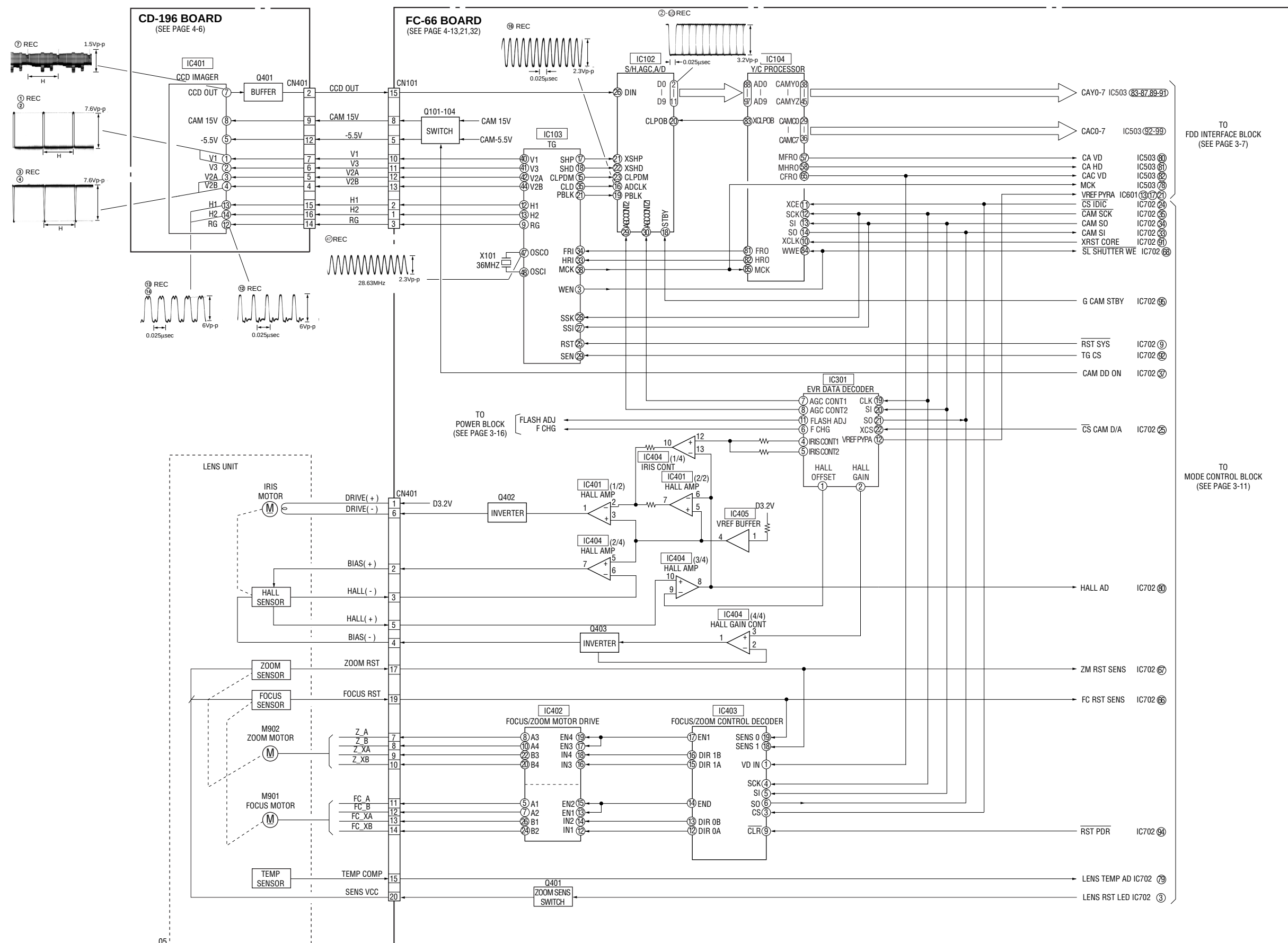


SECTION 3
BLOCK DIAGRAMS

3-1. OVERALL BLOCK DIAGRAM



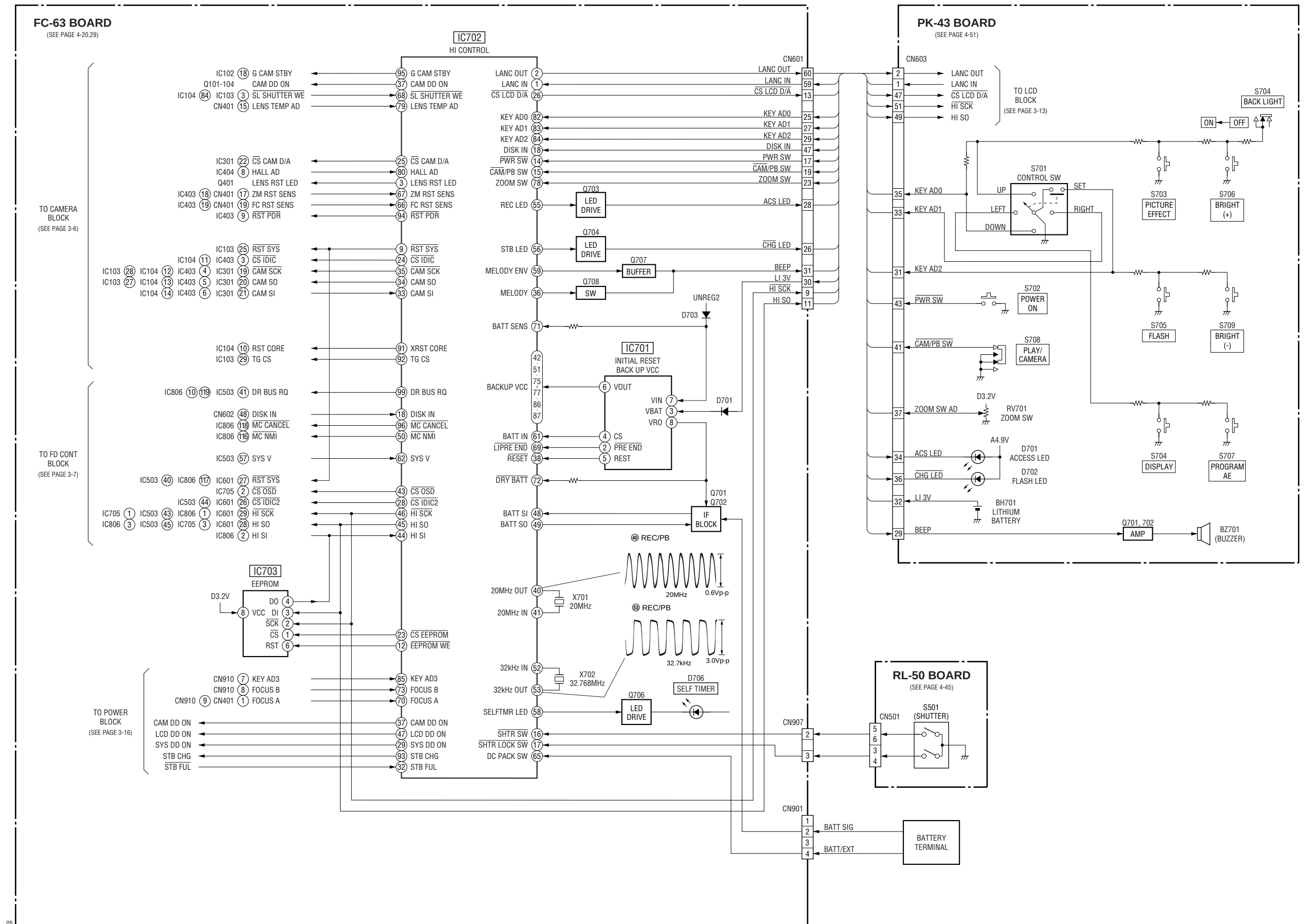
3-2. CAMERA BLOCK DIAGRAM



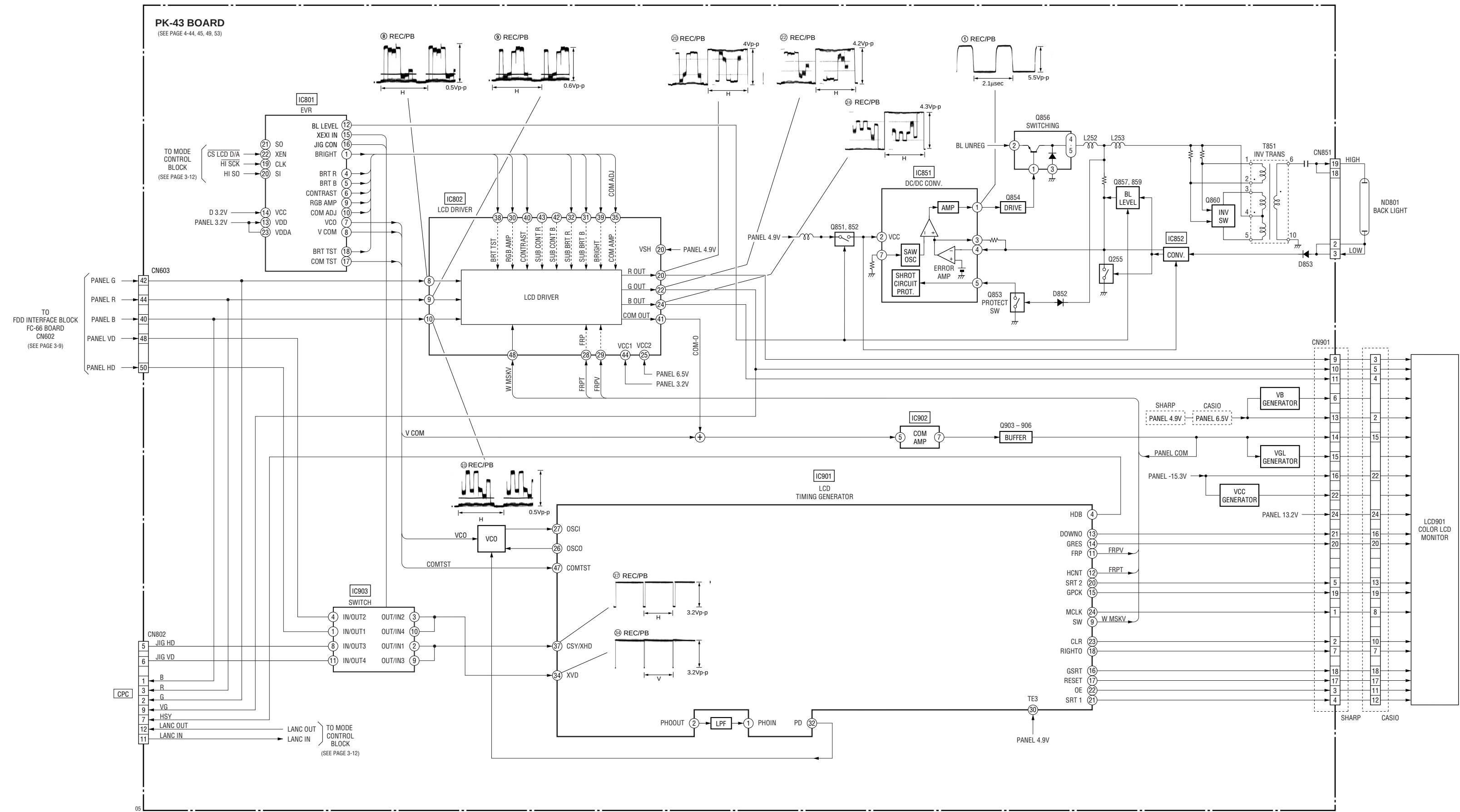
3-8



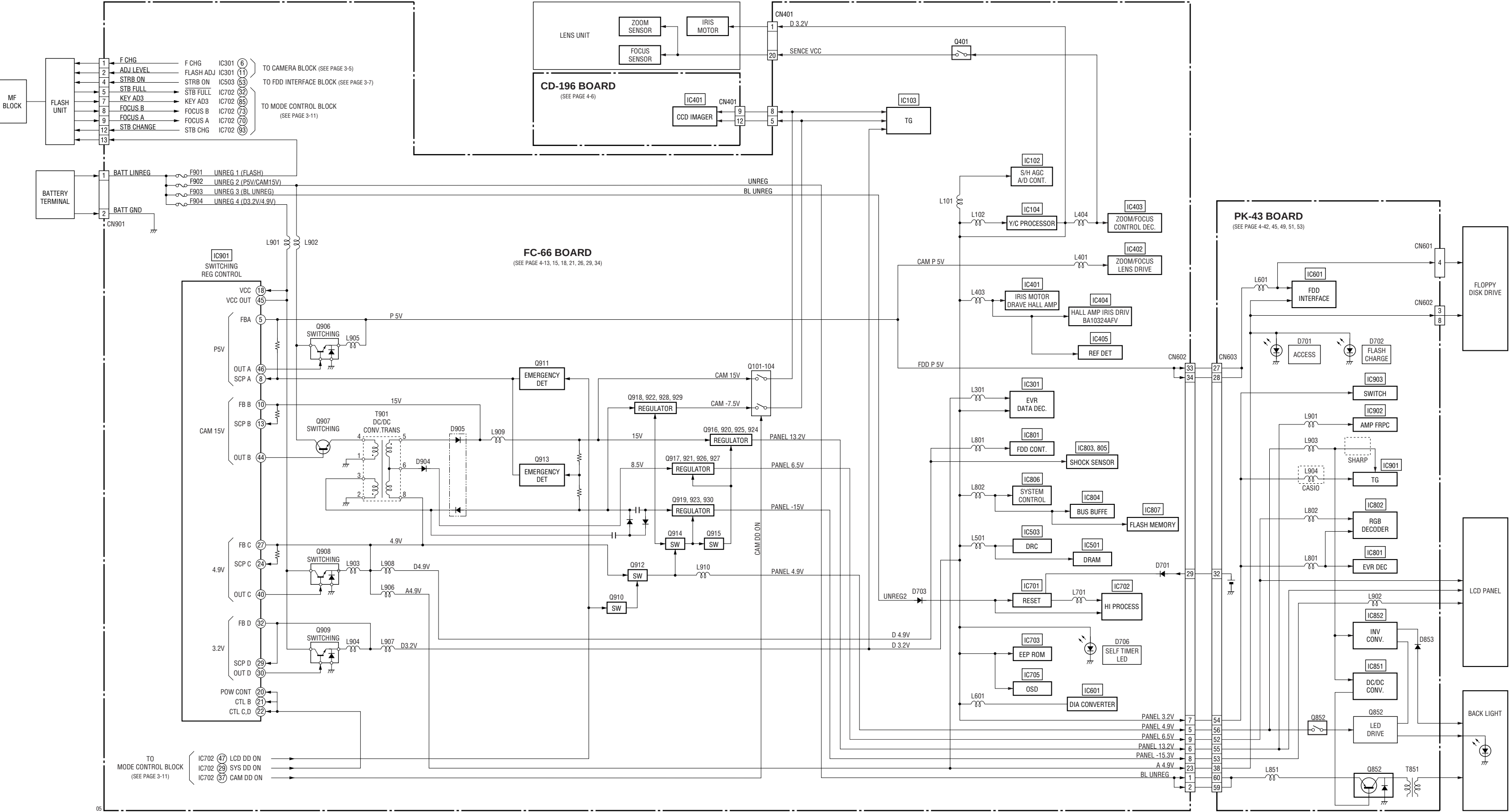
3-4. MODE CONTROL BLOCK DIAGRAM



3-5. LCD BLOCK DIAGRAM

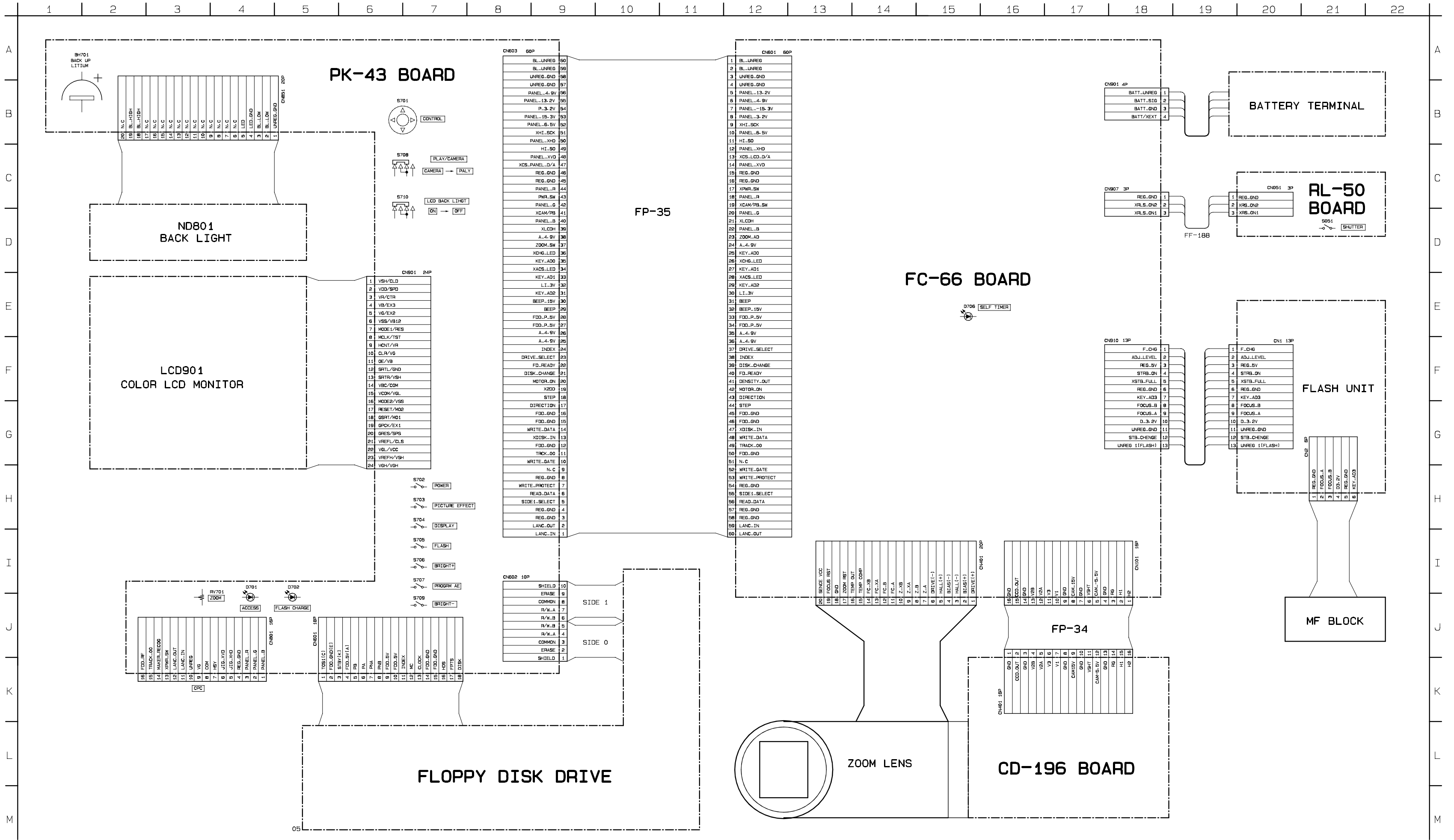


3-6. POWER BLOCK DIAGRAM



SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM



4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR WIRING BOARDS AND SCHEMATIC DIAGRAMS
(In addition to this, the necessary note is printed in each block)

(For printed wiring boards)

- Pattern from the side which enables seeing.
(The other layers' patterns are not indicated.)
- Through hole is omitted.
- Circled numbers refer to waveforms.
- There are few cases that the part printed on diagram isn't mounted in this model.
- Chip parts.

Transistor

Diode

(For schematic diagrams)

- All capacitors are in μF unless otherwise noted. pF : μF . 50V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10W unless otherwise noted. $\text{k}\Omega$ =1000 Ω , $\text{M}\Omega$ =1000 $\text{k}\Omega$.
- Caution when replacing chip parts.
New parts must be attached after removal of chip.
Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.
Example
C541 22U TA A
L452 10UH 2520

Kinds of capacitor

Temperature characteristics

External dimensions (mm)

• Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used.
In such cases, the unused circuits may be indicated.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

• Signal name
XEDIT → EDIT PB/XREC → PB/REC

• : non flammable resistor

• : fusible resistor

• : panel designation

• : B+ Line *

• : B- Line *

• : IN/OUT direction of (+, -) B LINE. *

• : adjustment for repair. *

• Circled numbers refer to waveforms. *

* Indicated by the color red.

Note : Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Note : The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

(Measuring conditions voltage and waveform)

- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values * and reference waveforms.
(VOM of DC 10 $\text{M}\Omega$ input impedance is used.)
- Voltage values change depending upon input impedance of VOM used.)

1. Connection

2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

Fig. a (CPC-9 jig TP-VG output waveform)

Fig.b (Picture on LCD)

When indicating parts by reference number, please include the board name.

CD-196 (CCD IMAGER) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

• For printed wiring board.

• CD-196 board is 4-layer print board. However, the patterns of layers 2 to 3 have not been included in the diagram.

• Chip transistor

There are few cases that the part printed on this diagram isn't mounted in this model.

CD-196 BOARD(SIDE A)

CD-196 BOARD(SIDE B)

CD-196 BOARD (SIDE A)

C401	B-2
C402	B-2
C403	B-2
C404	B-1
C405	B-1
CN401	A-2
L401	B-2
Q401	B-2
R401	B-2
R402	B-2
R403	B-2

CD-196 BOARD (SIDE B)

IC401	B-2
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FC-66
(CAMERA, DRAM CONTROL, DIA CONVERTER, CAMERA SERVO,
FDD CONTROL, MODE/SYSTEM CONTROL, EVR DECODER,
DC/DC CONVERTER)

RL-50
(RELEASE SWITCH)

FLASH UNIT

CD-196
(CCD IMAGER)

PK-43
(FDD INTERFACE, RGB DECODER,
LCD TIMING GENERATOR,
MODE KEY SWITCH, BACK LIGHT)

CD-196 BOARD

CCD IMAGER

-REF. NO:2-000 SERIES-

XX MARK:NO MOUNT

NO MARK:CAMERA REC/PB MODE

R:CAMERA REC MODE

P:PB MODE

TO FC-66 BOARD(1/8)
SEE PAGE 4-13)

• SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC			
PB			

Precautions Upon Replacing CCD Imager

- The CD-196 board mounted as a repair part is not equipped with a CCD imager.
When replacing this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC.
In addition, ensure that the receiver is not covered with dusts nor exposed to strong light.

① IC401 ① REC

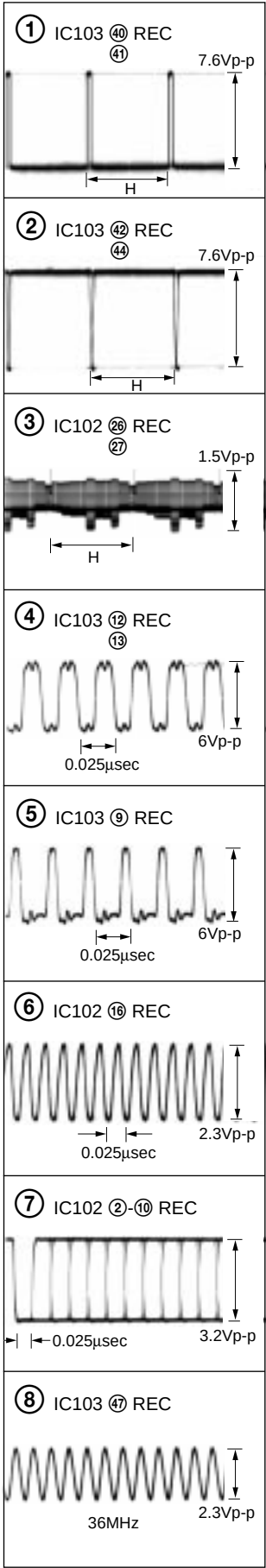
② IC401 ③ REC

③ IC401 ⑦ REC

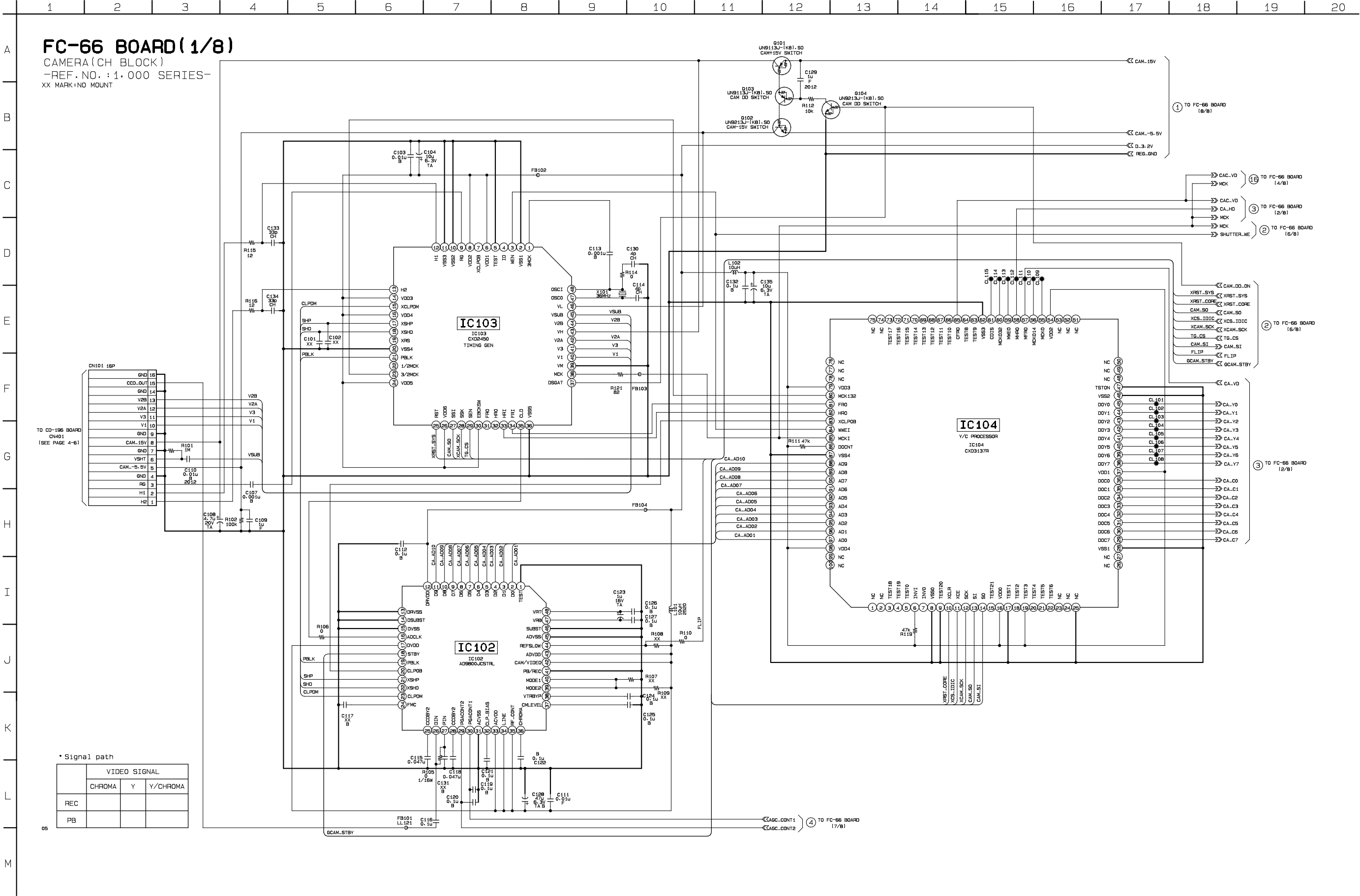
④ IC401 ⑩ REC

⑤ IC401 ⑫ REC

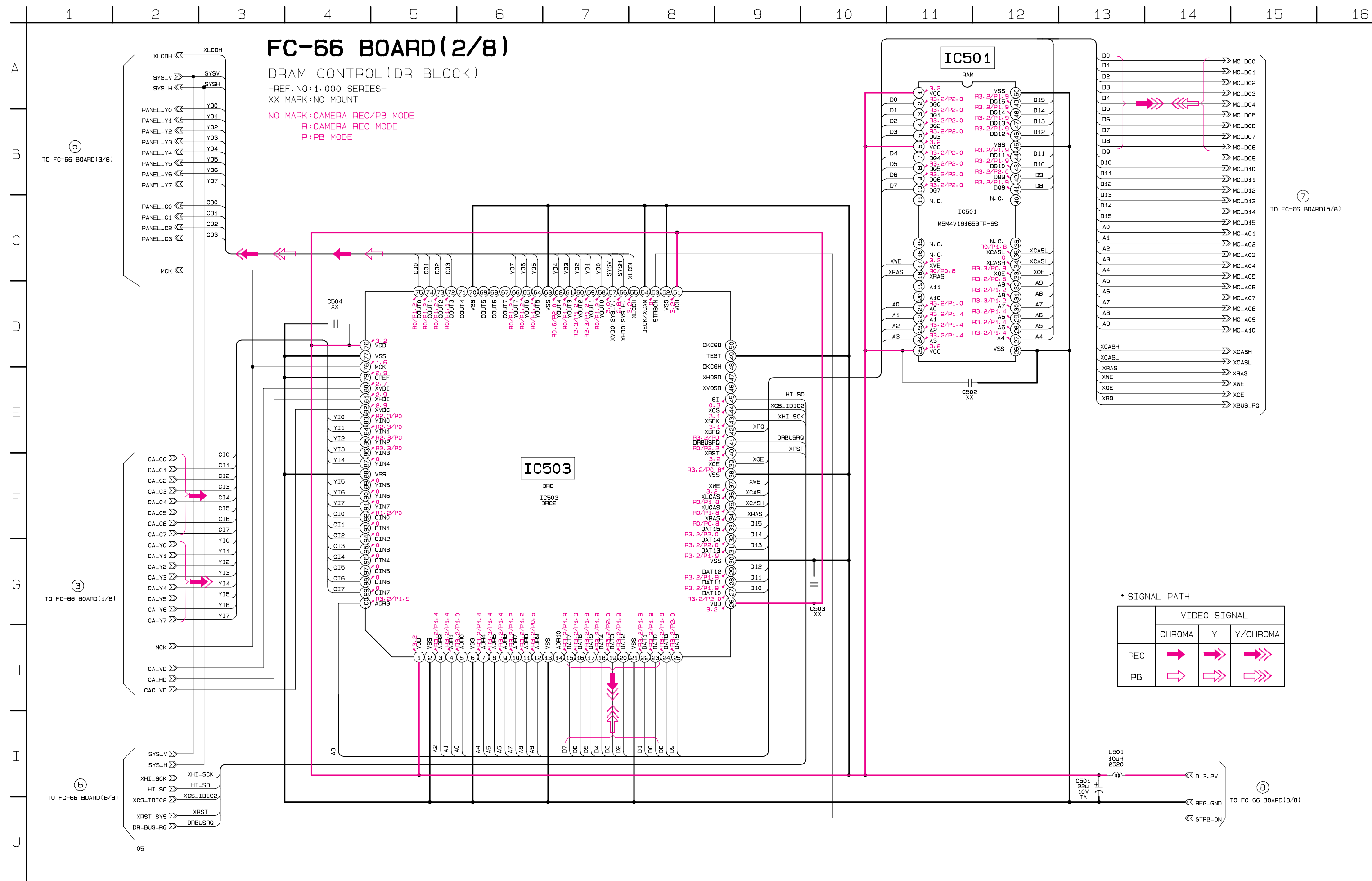
FC-66 BOARD (1/8)



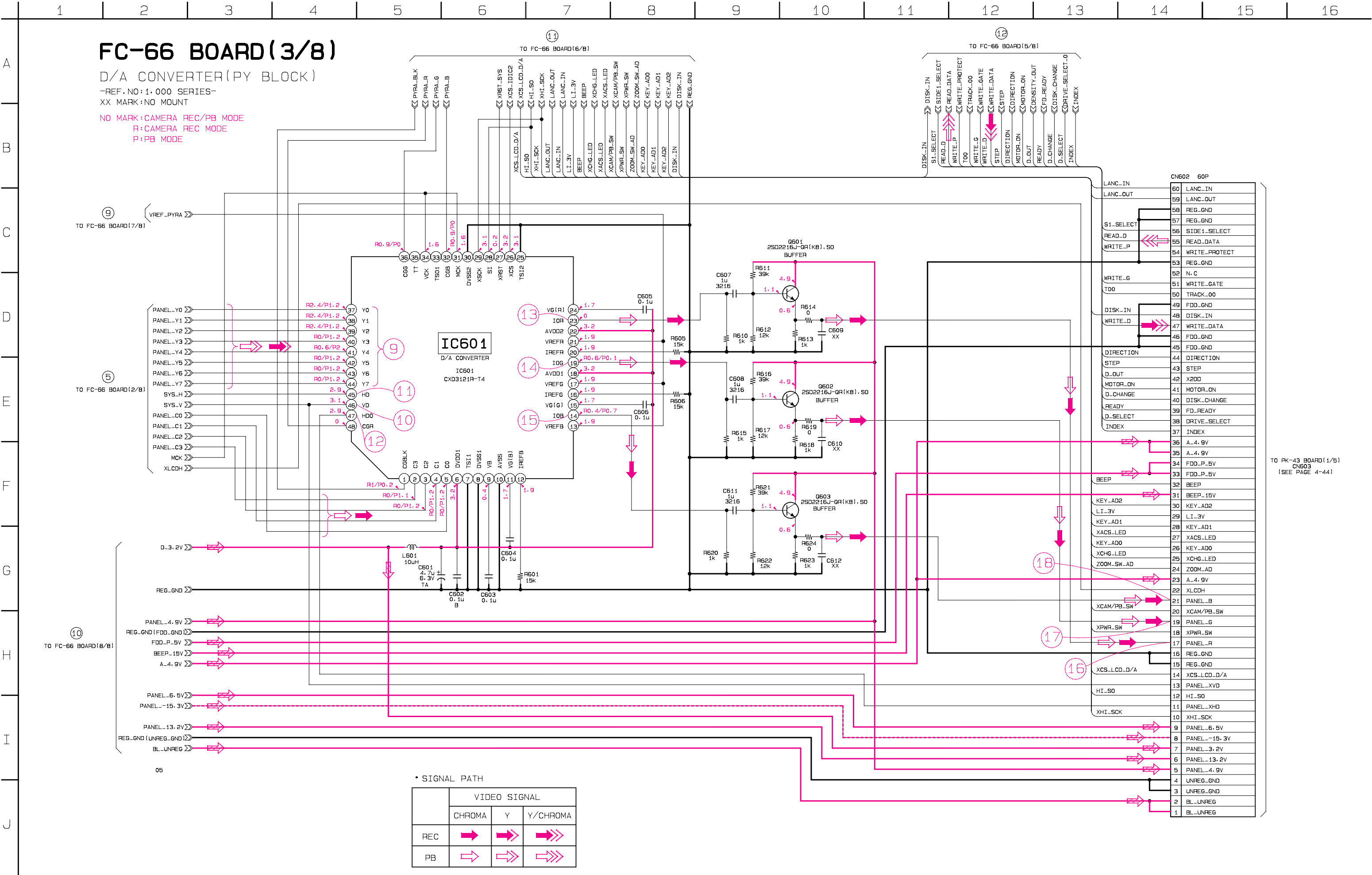
FC-66 (CAMERA) SCHEMATIC DIAGRAM • See page 4-9 for FC-66 BOARD printed wiring board.



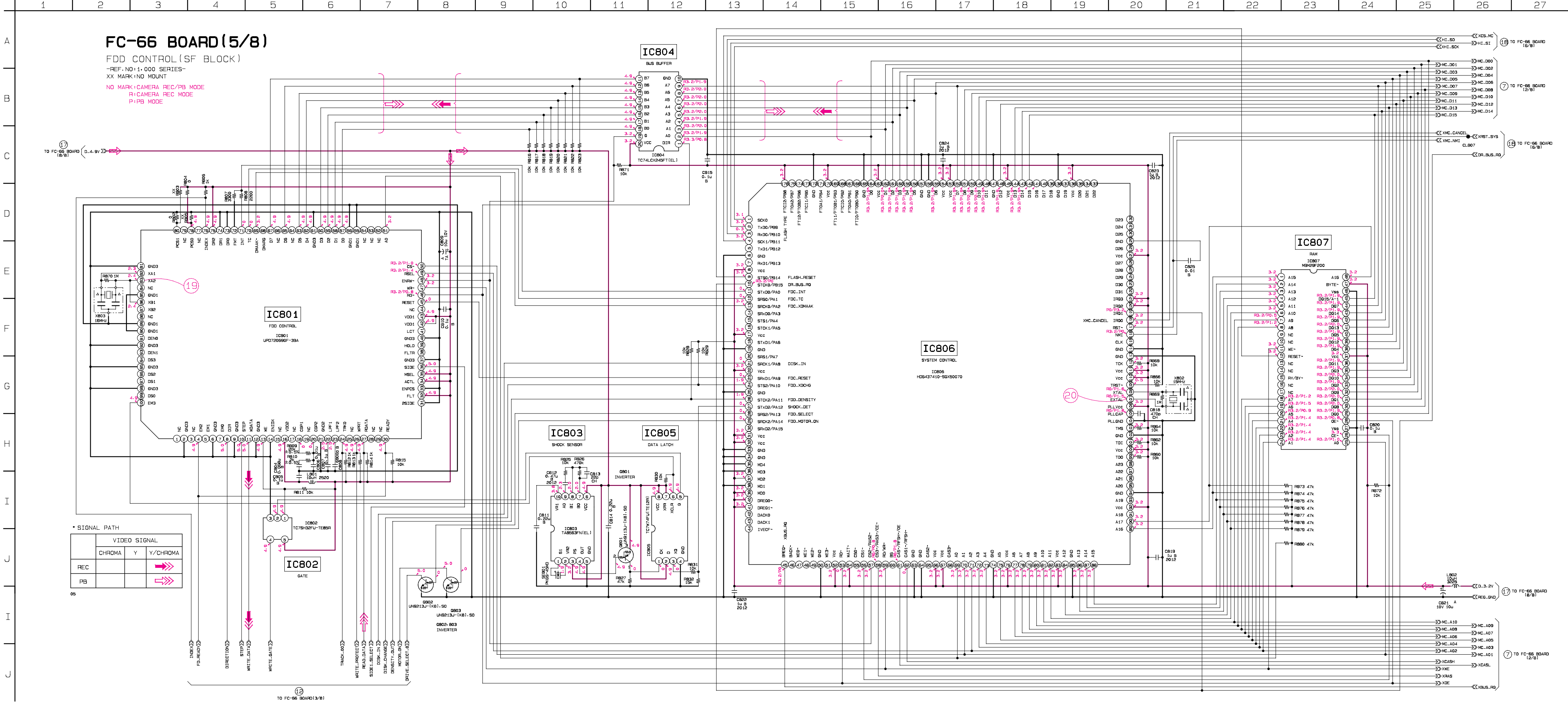
FC-66 (DRAM CONTROL) SCHEMATIC DIAGRAM • See page 4-9 for FC-66 BOARD printed wiring board.



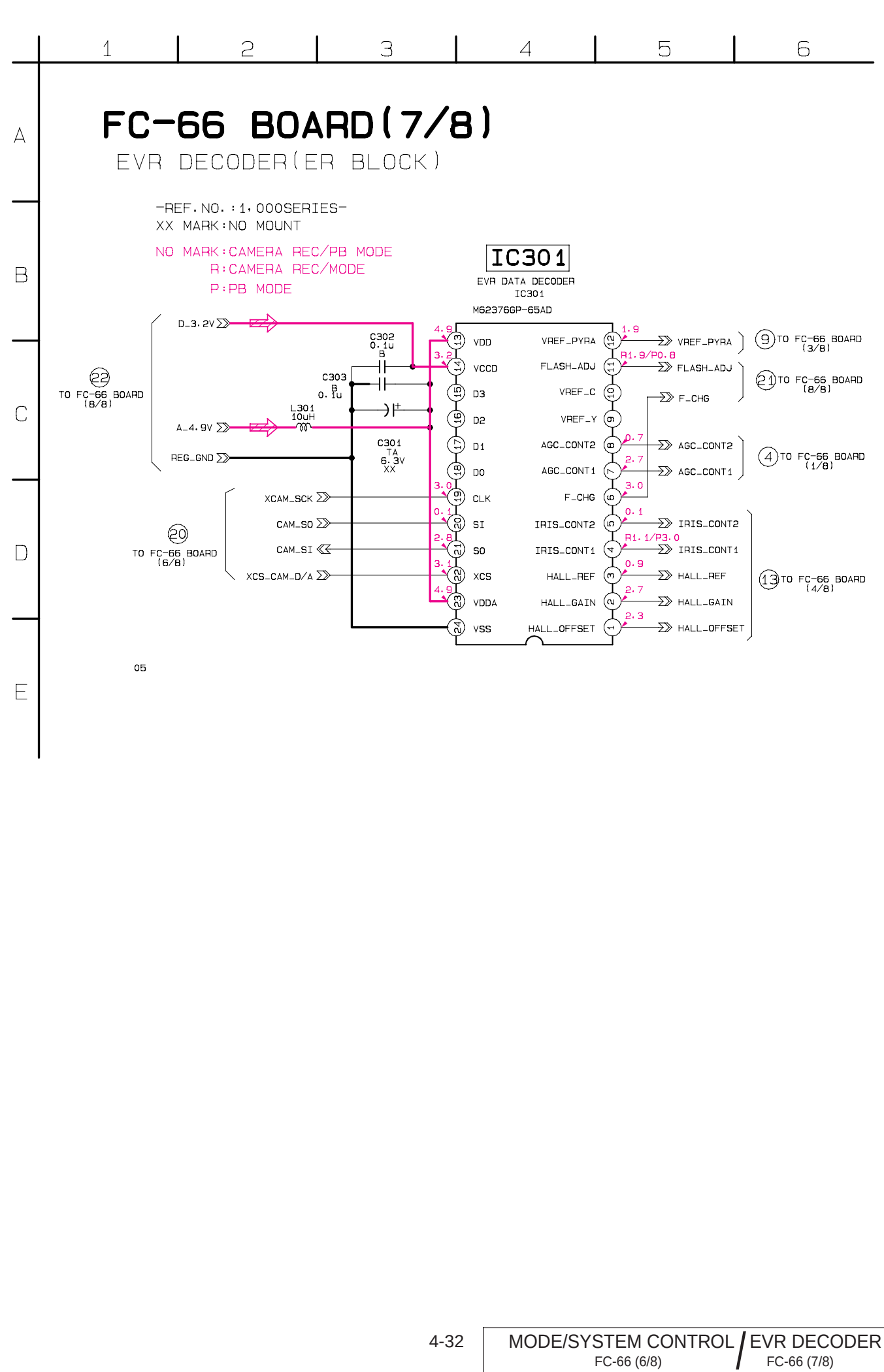
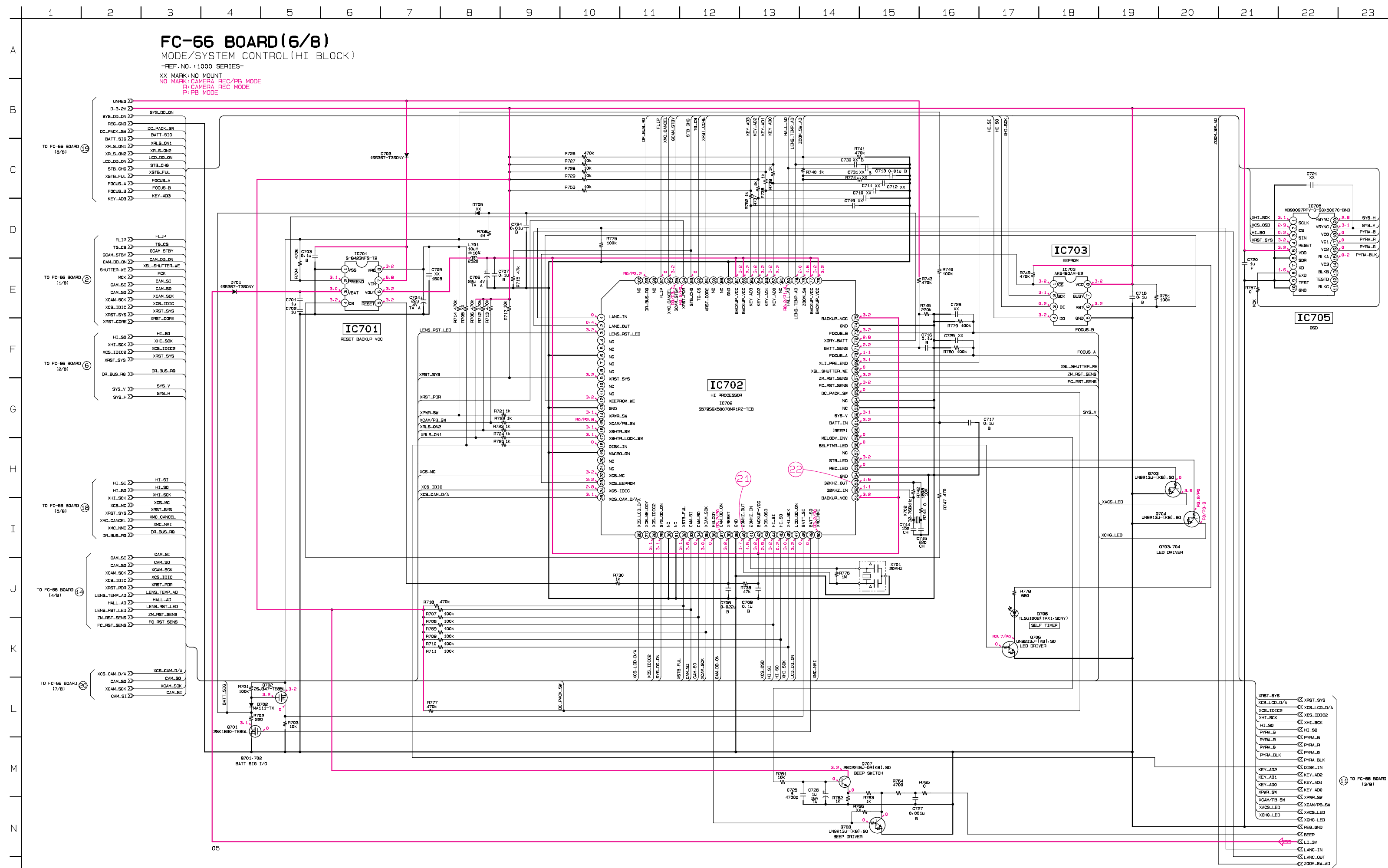
FC-66 (D/A CONVERTER) SCHEMATIC DIAGRAM • See page 4-9 for FC-66 BOARD printed wiring board.

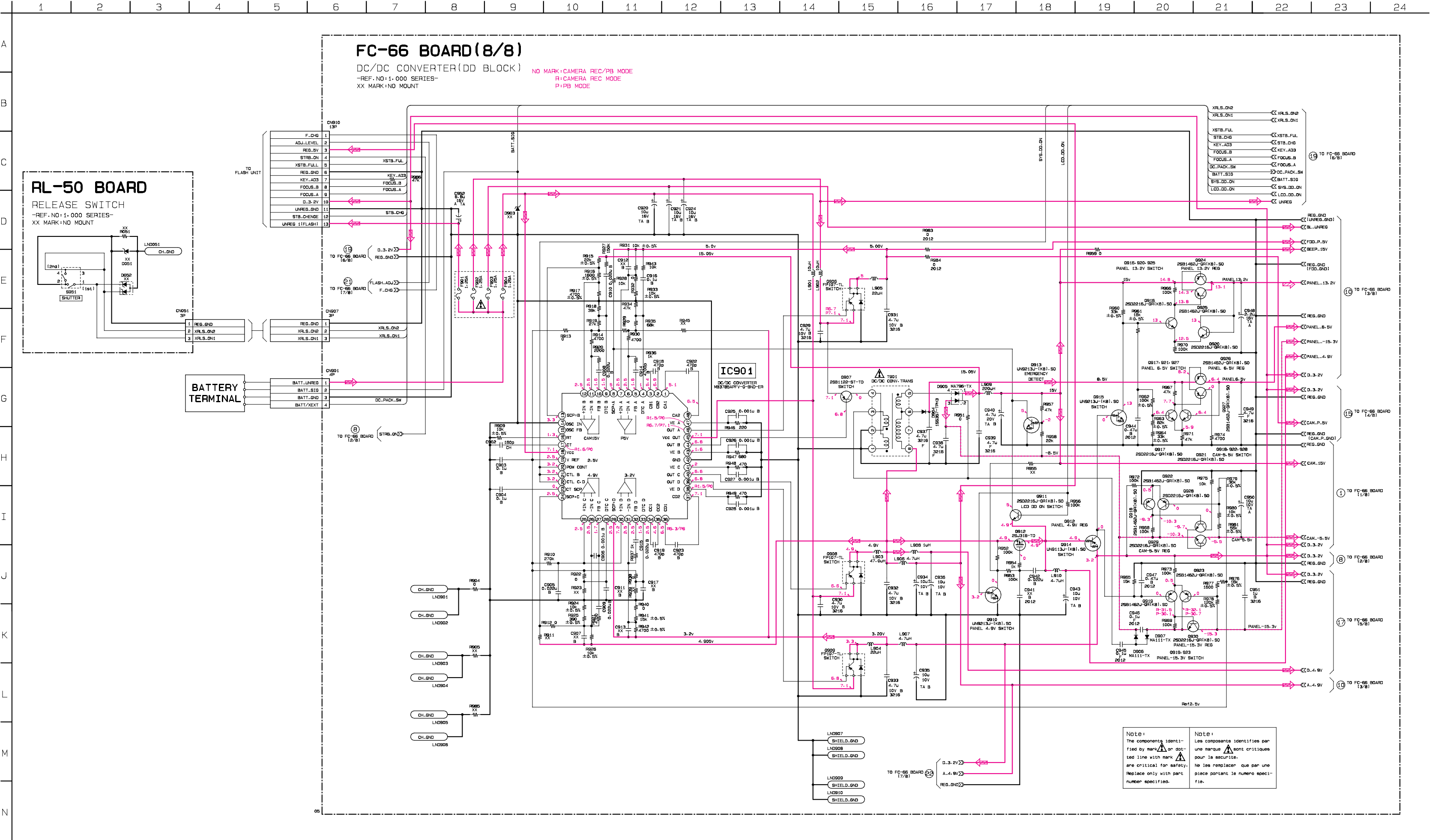


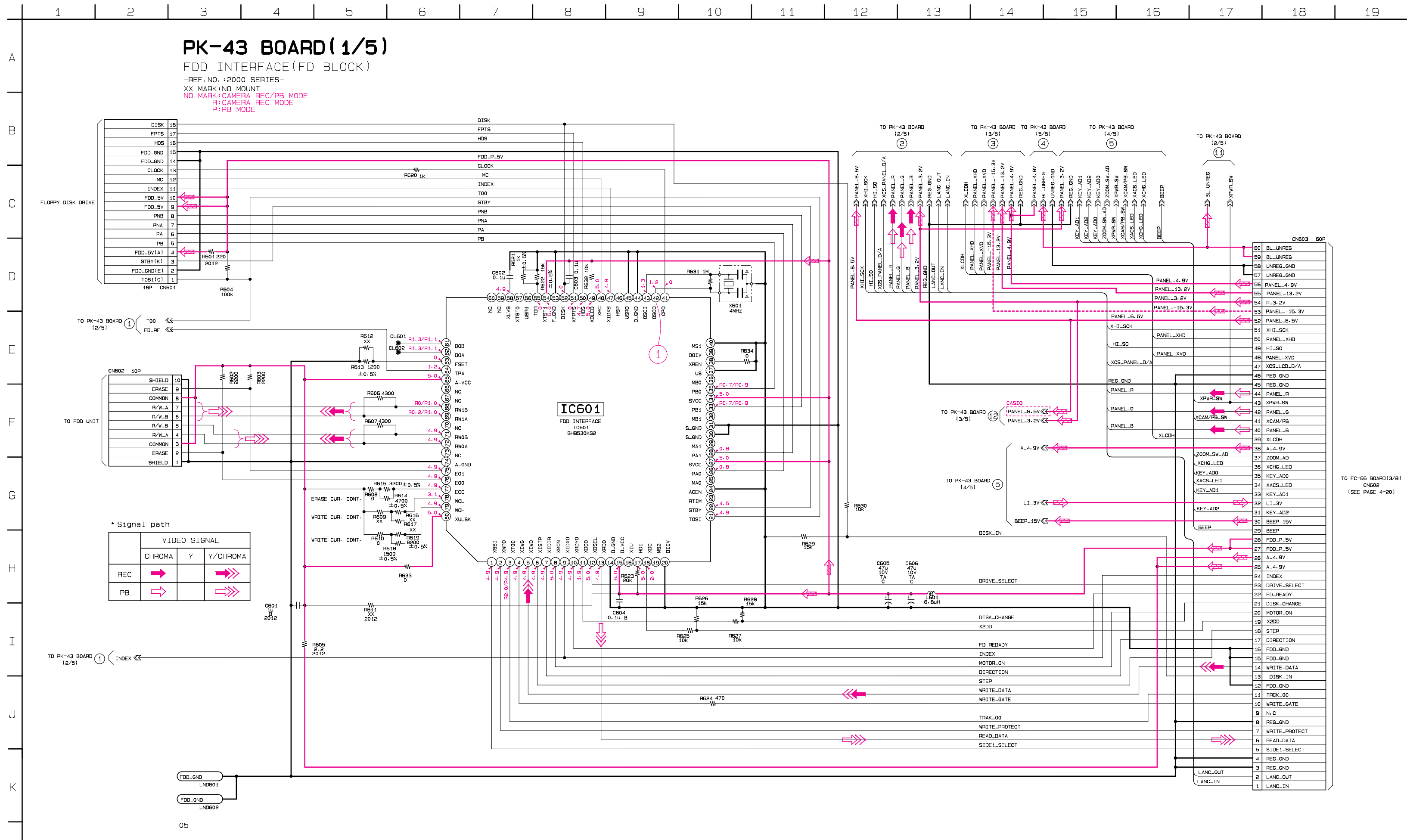


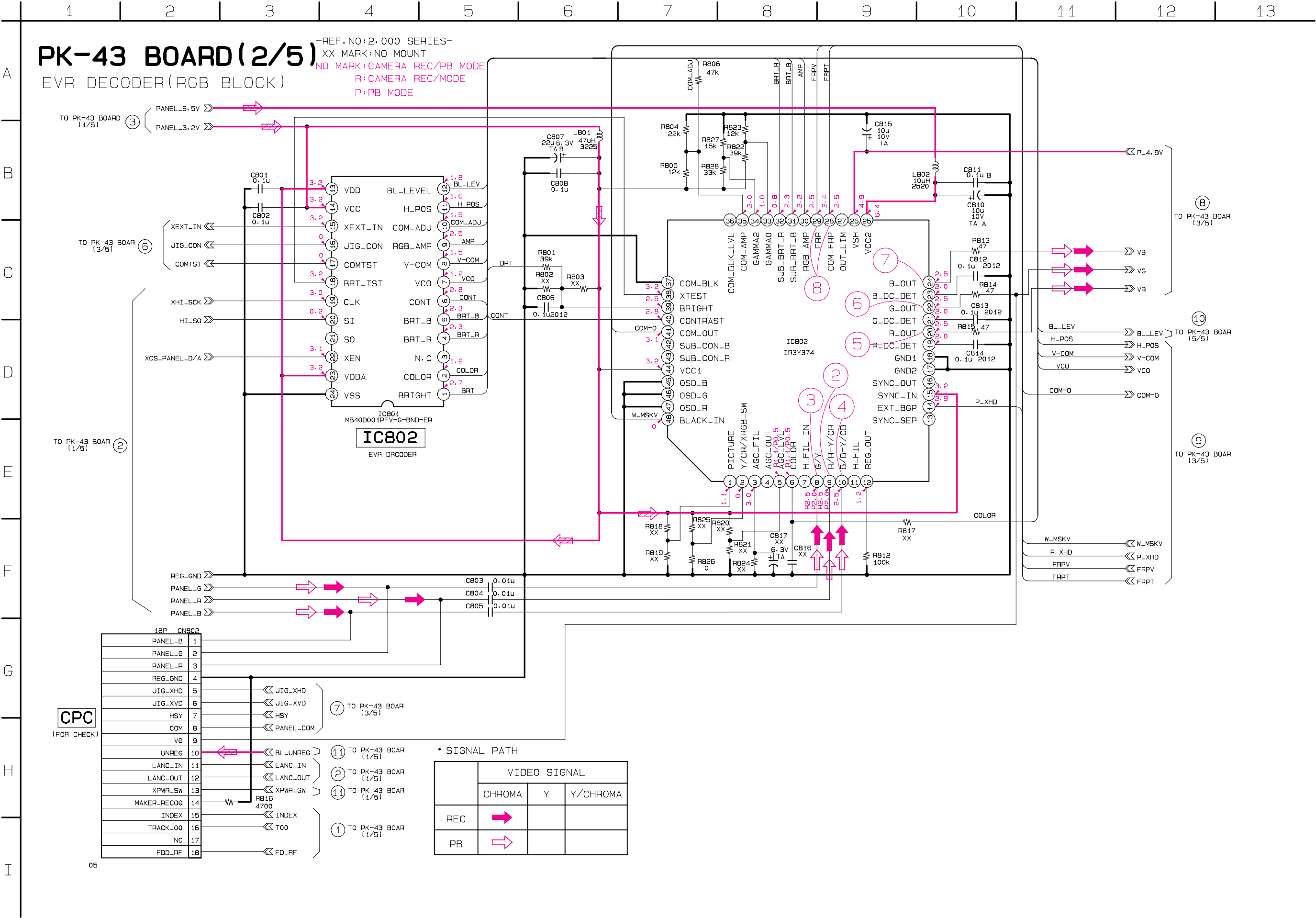


FC-66 (MODE/SYSTEM CONTROL), (EVR DECODER) SCHEMATIC DIAGRAMS • See page 4-9 for FC-66 BOARD printed wiring board.

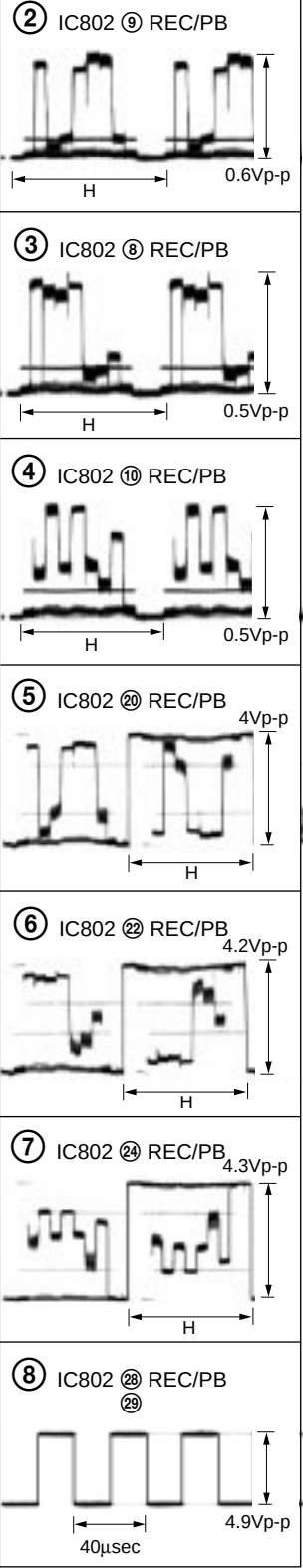




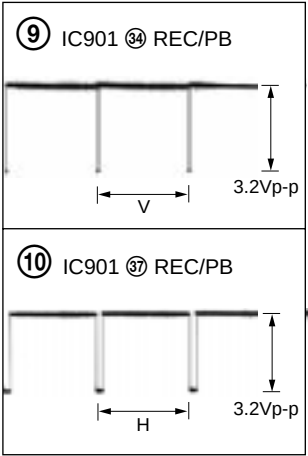




PK-43 BOARD (2/5)



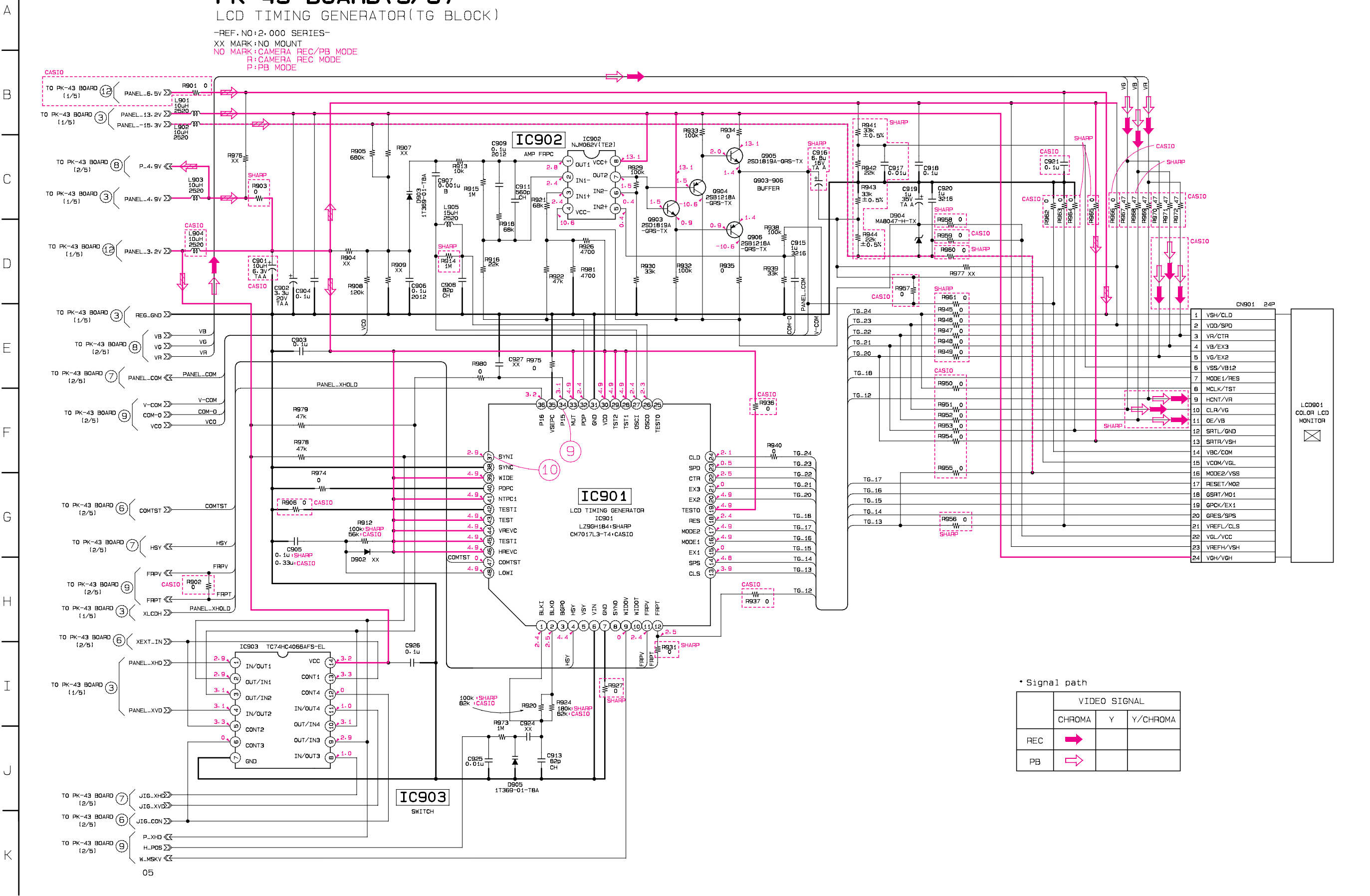
PK-43 BOARD (3/5)



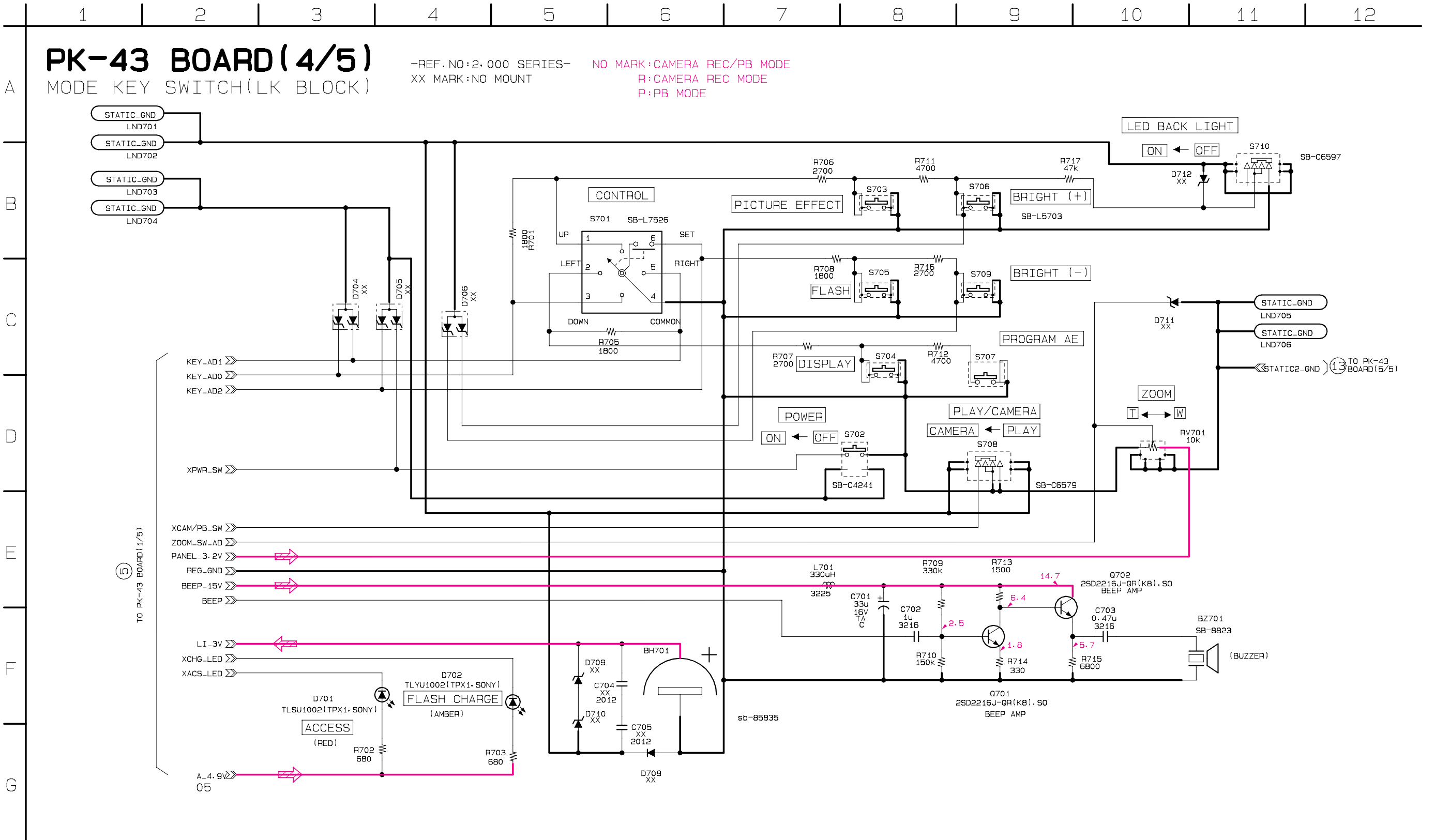
PK-43 BOARD (3/5)

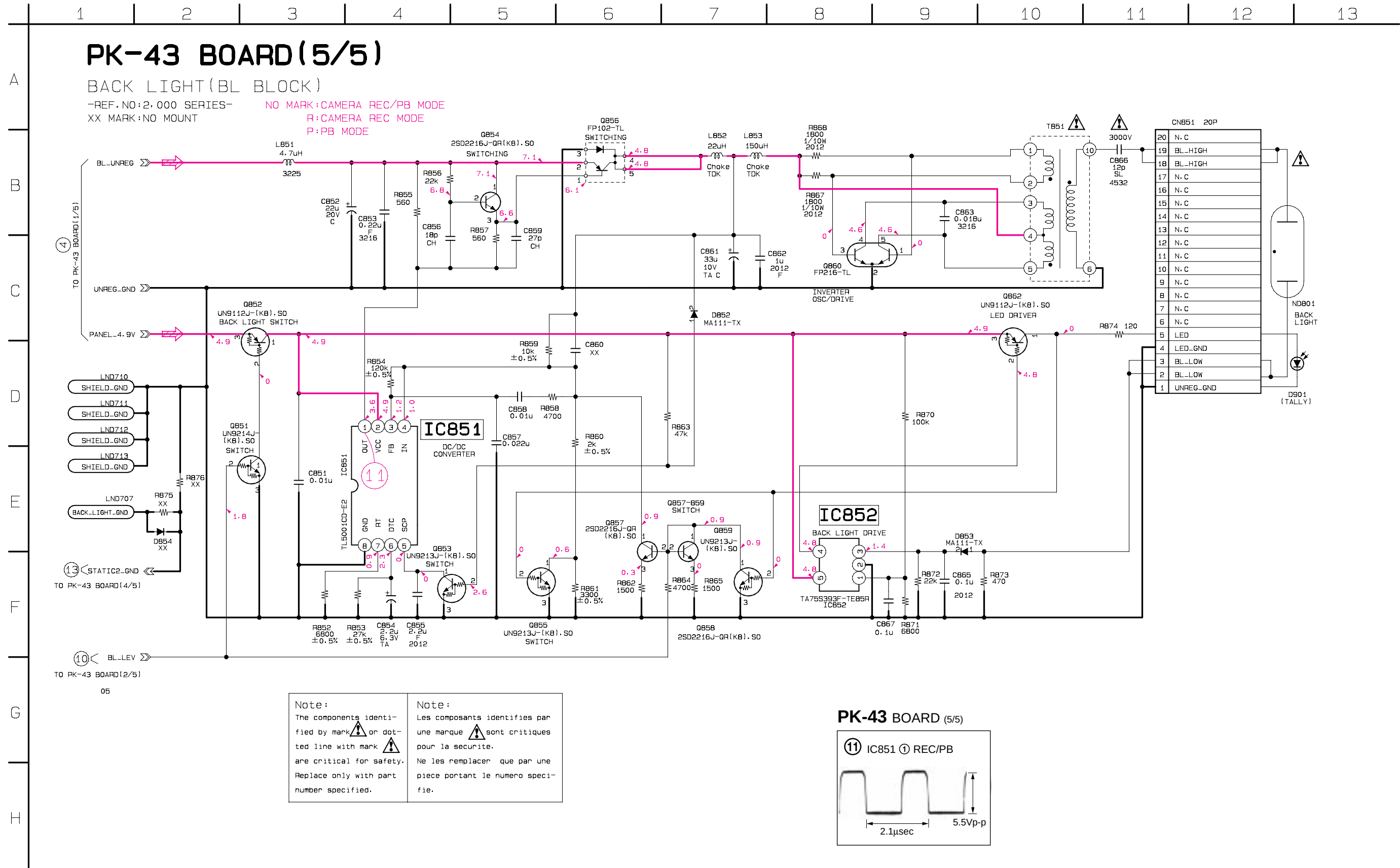
LCD TIMING GENERATOR(TG BLOCK)

-REF. NO: 2-000 SERIES-
XX MARK: NO MOUNT
NO MARK: CAMERA REC/PB MODE
R: CAMERA REC MODE
P: PB MODE



PK-43 (MODE KEY SWITCH) SCHEMATIC DIAGRAM • See page 4-37 for PK-34 BOARD printed wiring board.





SECTION 5 ADJUSTMENTS

5-1. CAMERA SECTION ADJUSTMENT

1-1. PREPARATIONS BEFORE ADJUSTMENT

1-1-1. List of service tools

Oscilloscope	Regulated power supply	Vectorscope
Digital voltmeter	Frequency counter	AC power adaptor (BC-V615)

Ref. No.	Name		Parts Code	Usage
J-1	Filter for color temperature correction (C14)		J-6080-058-A	Auto white balance adjustment/check White balance adjustment/check
J-2	ND filter 1.0 ND filter 0.3		J-6080-808-A J-6080-818-A	White balance check White balance check
J-3	Pattern box PTB-450		J-6082-200-A	
J-4	Color chart for pattern box		J-6020-250-A	
J-5	Siemens star		J-6080-875-A	For checking the flange back
J-6	Adjustment remote commander (RM-95 upgraded) Note2		J-6082-053-B	
J-7	Clear chart		J-6080-621-B	White balance adjustment.
J-8	CPC-9 (12-pin/18-pin, 0.5 mm)		J-6082-393-B	LANC signal, R.G.B. signal check.
J-9	Extension cable		J-6082-427-A	FDD UNIT-PK-43 board
J-10	Alignment disk (Two disks as a pair)	TFD2-1(+)	8-967-990-01	Dynamic inspection disk with LCD adjustment signal
		TFD2-2(-)	8-967-990-11	
J-11	Personal computer			PC with Windows95 installed
J-12	Cleaning disk (OR-D29WA)		8-960-009-39	FDD head cleaning *Note 1
	Cleaning disk		Available on market	

Note 1: Usage and operating note

One or two seconds of momentary use of cleaning disk is sufficient such that FD is accessed momentarily by system control when the main power is turned on. After cleaning, insert a FD for playback. When cleaning is insufficient, use a cleaning disk again.
Caution: Avoid using a cleaning disk excessively. Head can be broken.

Note 2: If the microprocessor IC in the adjusting remote commander is not the new microprocessor (UPD7503G-C56-12), the pages cannot be switched.
 In this case, replace with the new microprocessor (8-759-148-35).

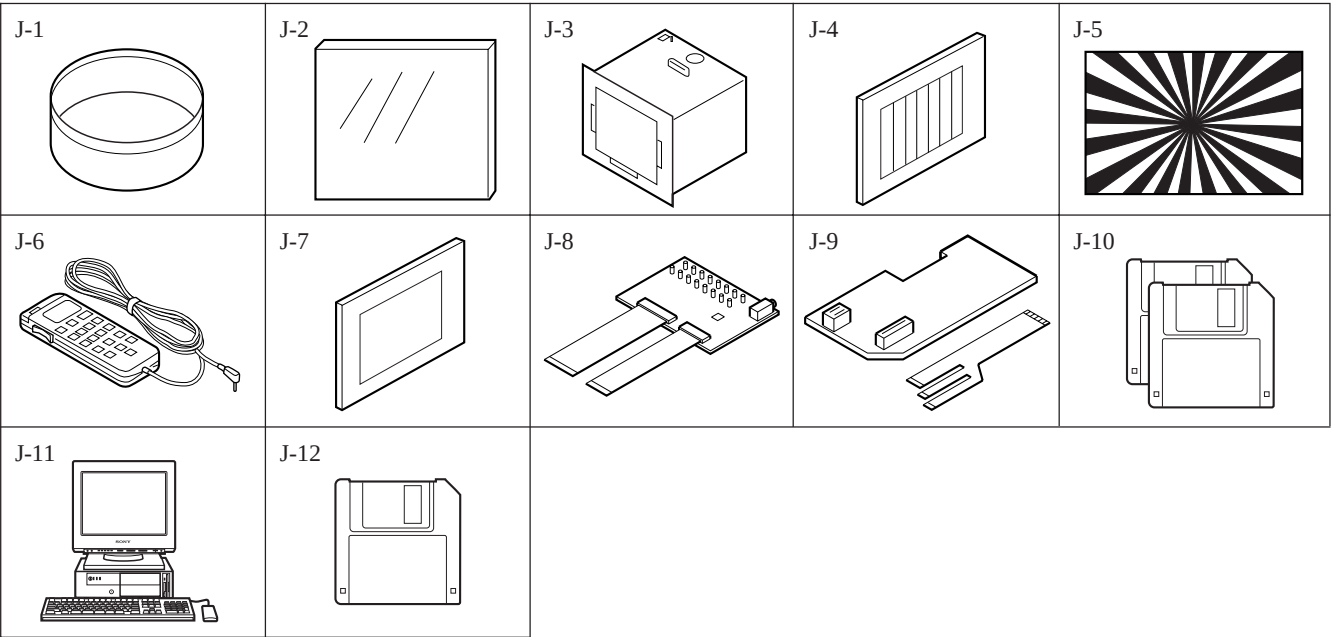


Fig.5-1-1.

1-1-2. Precautions

1. Switch settings

Adjust the switches to the following positions.

- 1) PLAY/CAMERA switch
(PK-43 board S708) CAMERA
- 2) FLASH (PK-43 board S705) OFF
- 3) PROGRAM AE (PK-43 board S707) Turn OFF all marks
from the LCD

2. Adjustment sequence

Adjust in the given order.

3. Subject

- 1) Set the camera and pattern box as shown in Fig. 5-1-2.
- 2) Color bar chart (Standard picture frame)
 - Adjust the picture frame as shown in Fig. 5-1-3.
 - Adjust camera zooming and direction until the camera output waveform on the oscilloscope shown in Fig. 5-1-3 (a) and the color picture on the LCD shown in Fig. 5-1-3 (b) have been acquired.
 - Maintain this setup until adjustment is complete.

- 3) White pattern (Standard picture frame)
Remove the color bar chart from the pattern box and adjust the camera setup until the white pattern picture frame is the same size and same position as the color bar chart (the standard picture frame).

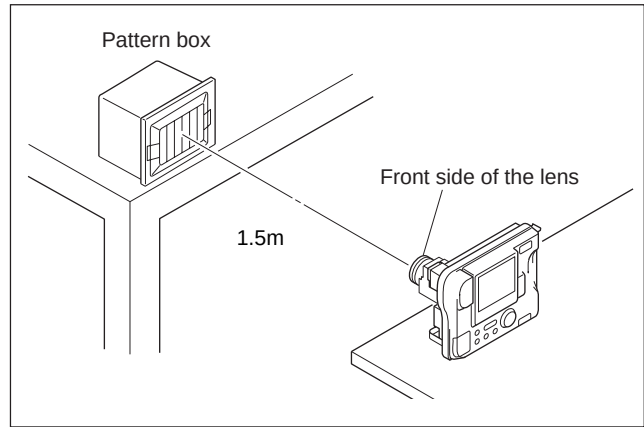


Fig. 5-1-2

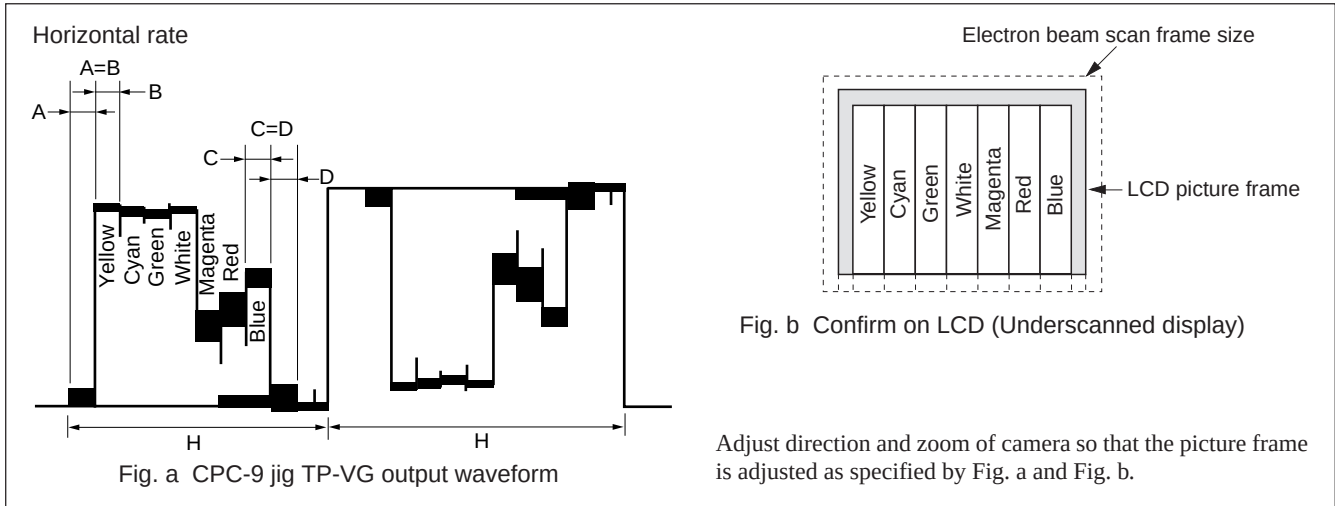


Fig. 5-1-3

- 4) Chart for flange back adjustment
Join together a piece of white A0 size paper (1189mm × 841 mm) and a piece of black paper to make the chart shown in Fig. 5-1-4.

Note: Use a non-reflecting and non-glazing vellum paper. The size must be A0 or larger and the joint between the white and black paper must not have any undulations.

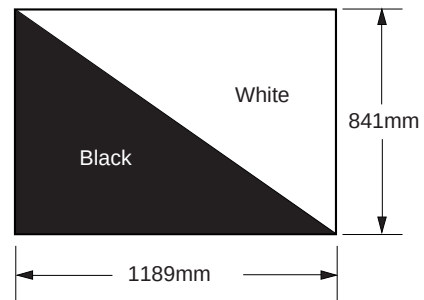


Fig. 5-1-4

1-1-3. Preparations

Note 1: Refer to “2. Disassembly” for details of how to remove the cabinet and the respective boards.

Note 2: Removal of the lens block and FC-66 board is not necessary if only adjustments are to be made.

1) Connect the adjustment equipment as shown in Fig. 5-1-5.

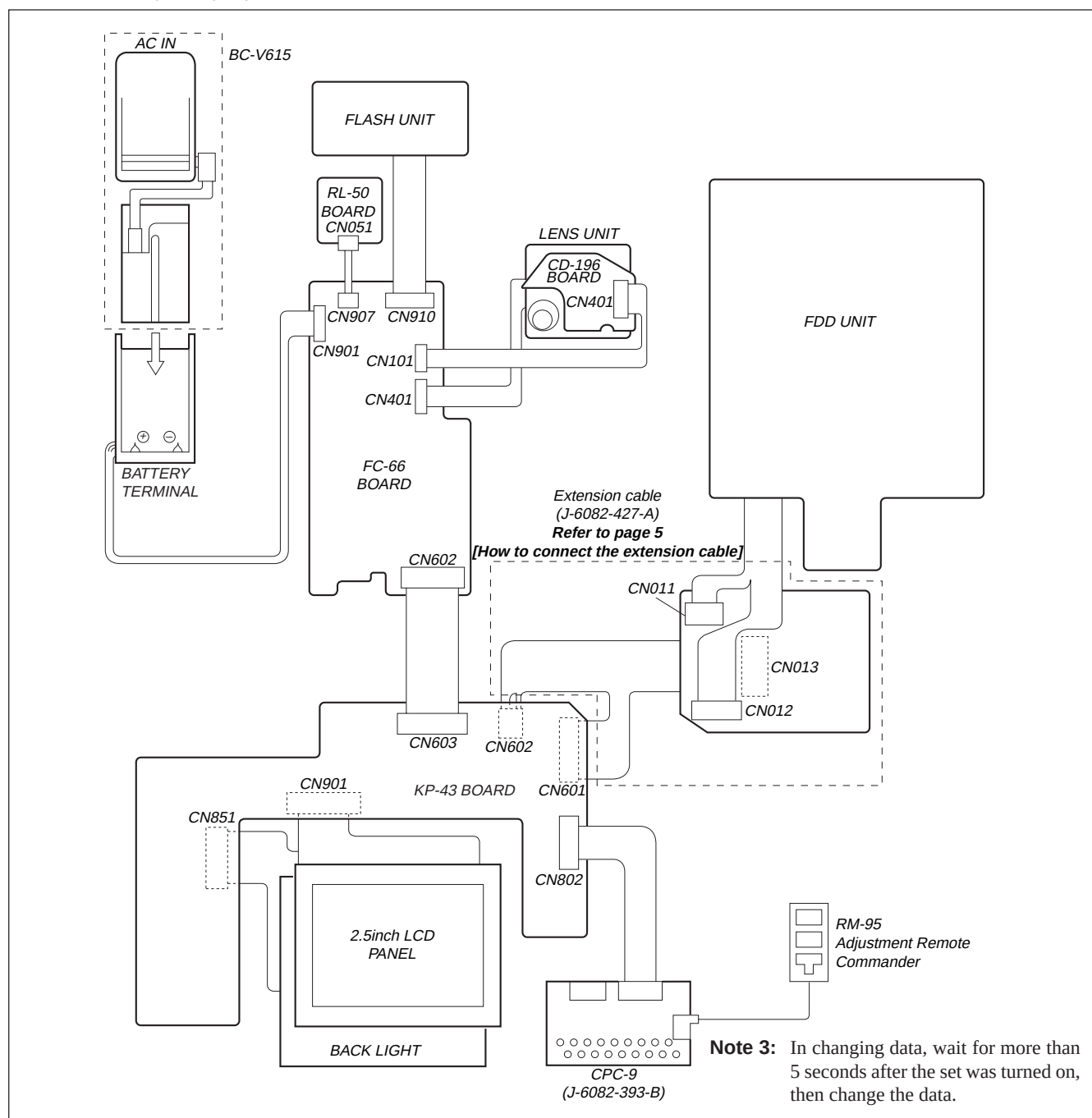
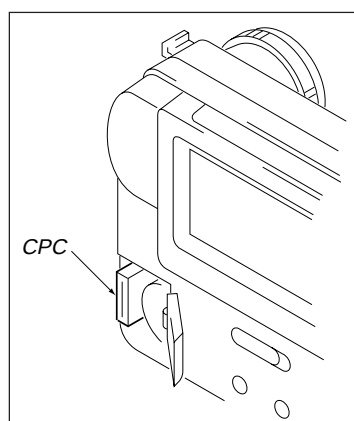


Fig. 5-1-5.

Note 4: When performing the adjustments only, the cabinet removal is not needed. Open the lithium battery lid and connect the CPC-9 jig as shown in the right figure.

Note 5: Connect the GND terminal to Floppy disk drive unit frame when check the RF signals waveform.



1-1-4. Discharge of flashlight power supply

The capacitor which is used as the power supply of flashlight is charged with 200 V to 300 V voltage. Discharge this voltage before starting adjustment in order to protect service engineers from electric shock during adjustment .

Discharge procedure

- 1. Turn OFF the flash switch by pressing the switch S705 on the PK-43 board which turns OFF the flash charging lamp.
- 2. Fabricate the discharging jig as shown in Fig. 5-1-6 locally by yourself. Connect the discharging jig to the positive (+) and negative (-) terminal of the flash voltage charge capacitor. Allow ten seconds to discharge the voltage.

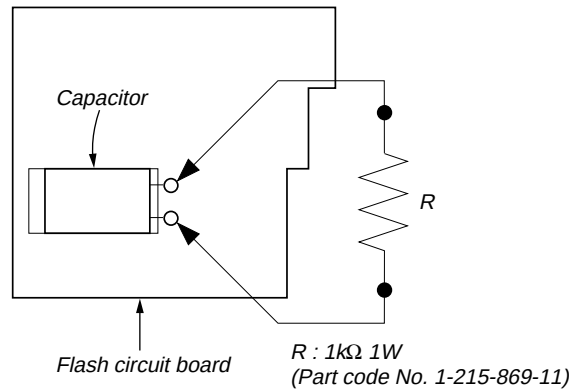


Fig. 5-1-6

1-1-5. Adjustment remote commander (RM-95 upgraded)

To perform adjustment, the adjustment data stored in the non-volatile memory must be rewritten using the adjustment remote commander (RM-95 upgraded).

The adjustment remote commander uses the remote commander signal line (LANC) to interactively communicate with the merchandise. The page, address and up/down command data are sent from the adjustment remote commander to the merchandise. In return, the page, address and data are sent to the adjustment remote commander from the merchandise.

1. Using the adjustment remote commander

- 1) Connect the adjustment remote commander to the LANC terminal (CPC jig).
- 2) Set the NOR-ADJ (or HOLD) switch of the adjustment remote commander to the “ADJ” (or ON) (service) position.
If the adjustment remote commander is correctly connected, the adjustment remote commander’s LED will show the display as shown in Fig. 5-1-7.
- 3) Bit value discrimination
It is necessary to discriminate between the bit values with the data displayed on the adjustment remote commander for all following items. Identify whether the bit value is “1” or “0” with the use of the following diagram.

Display on the adjustment remote commander

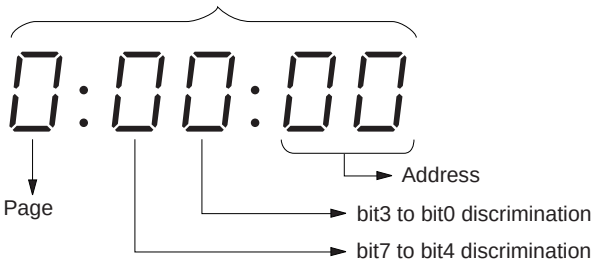


Fig. 5-1-7

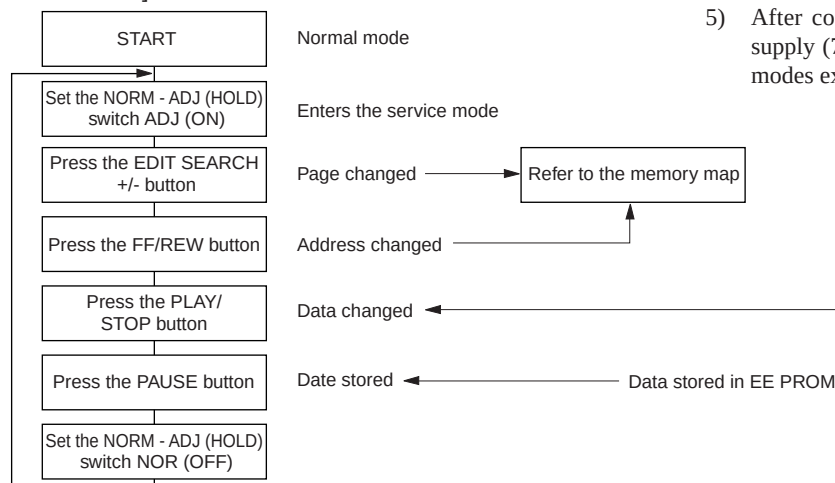
Display on the adjustment remote commander	Bit values			
	bit3 or bit7	bit2 or bit6	bit1 or bit5	bit0 or bit4
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
Ⓐ 8	1	0	0	0
9	1	0	0	1
A (H)	1	0	1	0
B (h)	1	0	1	1
C (L)	1	1	0	0
D (d)	1	1	0	1
Ⓑ E (E)	1	1	1	0
F (F)	1	1	1	1

(Example) If “8E” is displayed on the adjustment remote commander, the bit values for bit7 to bit4 are shown in the Ⓐ column, and the bit values for bit3 to bit0 are shown in the Ⓑ column.

- 4) The adjustment remote controller is operated as follows:
- Changing the page
The pages increase when the EDIT SEARCH (+) button is pressed and decrease when the EDIT SEARCH (–) button is pressed. Altogether there are 16 pages from page “0” to page “F”.

Hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
LCD display	0	1	2	3	4	5	6	7	8	9	A	b	C	d	E	F
Decimal notation after conversion	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

[Sequence of Service Models Using the Adjustment Remote Commander]



< When changing adjustment data >
The EVR value (RAM) is changed to the new data.
(But the changed data is not stored in the EE PROM.)

- Changing the address
The address increases when the FF (▶▶) button is pressed, and decreases when the REW (◀◀) button is pressed. Altogether there are 256 addresses from address “00” to address “FF”. Some addresses, which are not used during adjustment, do not appear.
 - Taking note the already-stored adjustment data
The previous adjustment can be erased if the adjustment remote commander is incorrectly handled. To prevent this, it is recommended that all the stored adjustment data be noted down on the attached page F address list.
 - Changing the data (Data setting)
The data increases when the PLAY (▶) button is pressed, and decreases when the STOP (■) button is pressed. Altogether there are 256 data from data “00” to data “FF”.
 - Storing the data
Press the PAUSE button to store the adjustment data (page F) into the non-volatile memory.
(If the PAUSE button is not pressed after completing the adjustment, the new adjustment data will not be stored in the non-volatile memory.)
- 5) After completing all adjustments, turn off the main power supply (7.2 V) once. This releases the adjustment mode (all modes except for page F).

Command Name	Command Function	Normal LANC Command
Page Up	Page + 1	Edit Search +
Page Down	Page – 1	Edit Search –
Direct Page Set	Sets the specified page	Event Clear
Address Up	Address + 1	Fast Forward
Address Down	Address – 1	Rewind
Data Up	Data + 1	Play Back
Data Down	Data – 1	Stop
Store	Stores data in the EE PROM.	Pause

2. Precautions when using the adjustment remote commander

Mishandling of the adjustment remote commander may erase the correct adjustment data which has already been stored in the memory. To prevent this, it is recommended that all adjustment data is noted down on the attached page F address list before starting adjustments in addition to all new adjustment data after the completion of each adjustment step.

1-1-6. Data Processing

In some adjustment items, data appears in hexadecimal numbers on the DDS display or on the adjustment remote commander. Maintenance engineers are expected to convert the displayed hexadecimal numbers to the corresponding decimal numbers using the following conversion table. Make a required calculation described in each adjustment item. Then re-convert the result of calculation back from the decimal numbers to the corresponding hexadecimal numbers using the following conversion table.

Hexadecimal-decimal Conversion Table																	②
Lower digit of hexadecimal Upper digit of hexadecimal	0	1	2	3	4	5	6	7	8	9	A (H)	B (h)	C (c)	D (d)	E (E)	F (F)	
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	
4	64	65	66	67	68	69	70	71	72	73	74	77	76	77	78	79	
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	
A (H)	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	
① B (h)	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	
C (c)	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	
D (d)	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	
E (E)	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	
F (F)	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	

Note : The characters shown in the parenthesis () shown the display on the adjustment remote commander.
 (Example) If the DDS display or the adjustment remote commander shows BD (b d);
 Because the upper digit of the adjustment number is B (h), and the lower digit is D (d), the meeting point
 “189” of ① and ② in the above table is the corresponding decimal number.

Table. 5-1-1

1-2. INITIALIZATION OF E AND F PAGE DATA

1. Initialization of E and F page data

Note 1: All data on pages E and F are initialized, if “initialization of E and F page data” is executed. (Only either page cannot be initialized.)

Note 2: This set must be readjusted in all items, if E and F page data were initialized.

Adjustment page	F
Adjustment address	00 - FF
Adjustment page	E
Adjustment address	00 - FF

Initialization procedure:

- 1) Set data: 01 to page: 0, address: 01.
- 2) Set data: 2D to page: 0, address: 00.
- 3) Set data: 2D to page: 3, address: 01, and press the PAUSE button on the adjustment remote commander.
- 4) After more than 3 seconds, confirm that the data on page: 3, address: 00 is “00”.
- 5) Set data: 00 to page: 0, address: 01.
- 6) Execute “change of E and F page data”.

2. Modification of F, E page data

If the F, E page data has been initialized, change the data of the “Fixed data-2” address shown in the following tables by manual input.

Modifying Method:

- 1) Before changing the data, select page: 0, address: 01, and set data: 01.
- 2) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
Note: If copy the data built in the different model, the camcorder may not operate.
- 3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
- 4) Check that the data of adjustment addresses is the initial value. If not, change the data to the initial value.
- 5) After changing the data, select page: 0, address: 01, and set data: 00.

3. F page table

Note 1: “Fixed data-1”: Initialized data (refer to “1. Initialization of E and F page data”)

“Fixed data-2”: Changed data (refer to “2. Change of E and F page data”)

Note 2: For the asterisk *, refer to “1-4. LCD System Adjustment”.

Address	Initial value	Remark
00 to 0F		
10		Fixed data-1 (Initialized data)
11		
12		Fixed data-2
13		Fixed data-1 (Initialized data)
14		
15		
16		
17		
18	80	Battery down adj.
19	88	
1A	AD	
1B	C2	
1C	CD	
1D		Fixed data-1 (Initialized data)
1E		
1F		
20		Fixed data-2
21		
22		
23		
24		Fixed data-1 (Initialized data)
25		
26		Fixed data-2
27		
28		
29		
2A		Fixed data-1 (Initialized data)
2B		
2C		
2D		
2E		
2F		
30	Åñ	Bright adj.
31		Fixed data-1 (Initialized data)
32		
33	Åñ	White balance adj.
34	Åñ	
35	Åñ	CONTRAST adj.
36	Åñ	VCO adj.
37	Åñ	V-COM adj.
38	Åñ	D RANGE adj.
39	Åñ	V-COM level adj.
3A		Fixed data-1
3B	Åñ	Fixed data-2
3C		Fixed data-1
3D		Fixed data-2
3E		Fixed data-1 (Initialized data)
3F		

Address	Initial value	Remark
40		Fixed data-2
41		
42		Fixed data-1 (Initialized data)
43		
44		
45		
46		
47		
48		
49		
4A		Fixed data-2
4B		Fixed data-1 (Initialized data)
4C		
4D		
4E		
4F		
50		
51		
52		
53		
54		
55		
56		
57		
58		
59		
5A		
5B		
5C		
5D		
5E		
5F		
60		
61		
62		
63		
64		
65		
66		
67		
68		
69		
6A		
6B		
6C		
6D		
6E		
6F		
70		

Address	Initial value	Remark
71		Fixed data-1 (Initialized data)
72		
73		
74		
75		
76		
77		
78		
79		
7A		
7B		
7C		
7D		
7E		
7F		
80		
81		
82		
83		
84		
85		
86		
87		
88		
89		
8A		
8B		
8C		Fixed data-2
8D		Fixed data-1 (Initialized data)
8E		
8F		
90		
91		
92		
93		
94		
95		
96		
97		
98		
99		
9A		
9B		
9C		
9D		
9E		
9F		
A0		Fixed data-2
A1		

Address	Initial value	Remark
A2		Fixed data-1 (Initialized data)
A3		
A4		
A5		
A6		
A7		Fixed data-2
A8		
A9		
AA		Fixed data-1 (Initialized data)
AB		
AC		
AD		
AE		
AF		
B0		
B1		
B2		
B3		
B4		
B5		
B6		
B7	19	
B8	92	
B9	21	
BA	12	
BB	14	
BC		Fixed data-1 (Initialized data)
BD		
BE	00	Flange back adj.
BF	00	
C0	41	
C1	00	
C2	19	
C3	00	
C4	2E	
C5	00	
C6	Fixed data-1	
C7	89	HALL adj.
C8	79	
C9	Fixed data-1	
CA	98	Light level adj.
CB	9A	
CC	10	AWB reference data input
CD	2D	
CE	70	
CF	41	
D0	Fixed data-1	
D1	Fixed data-2	
D2		

Address	Initial value	Remark
D3	89	Auto white balance adj.
D4	59	
D5		Fixed data-1 (Initialized data)
D6		
D7		
D8		
D9		
DA		
DB		
DC		
DD		
DE		
DF		
E0		
E1		
E2		
E3		
E4		
E5		
E6		
E7		
E8		
E9		
EA		
EB		
EC		
ED		
EE		
EF		
F0		
F1		
F2		
F3		
F4		
F5		
F6		
F7		
F8		
F9		
FA		
FB		
FC		
FD		
FE		
FF		

4. E page table

Note 1: “Fixed data-1”: Initialized data (refer to “1. Initialization of E and F page data”)

“Fixed data-2”: Changed data (refer to “2. Change of E and F page data”)

Address	Initial value	Remark
00		Fixed data-1 (Initialized data)
01		
02		
03		
04		
05		
06		
07		
08		
09		
0A		
0B		
0C		
0D		
0E		
0F		
10		
11	Fixed data-2	
12		Fixed data-1 (Initialized data)
13		
14		
15		
16		
17		
18		
19		
1A		
1B		
1C		
1D		
1E		
1F		
20		
21		
22		
23	07	HUE GAIN adj.
24	E2	
25	FC	
26	FF	
27	F3	
28	24	
29	16	
2A	06	
2B	Fixed data-1	
2C	(Initialized data)	
2D	Fixed data-2	
2E		

Address	Initial value	Remark	
2F		Fixed data-1 (Initialized data)	
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
3A	Fixed data-2		
3B		Fixed data-1 (Initialized data)	
3C			
3D			
3E			
3F			
40			
41			
42			
43			
44			
45			
46			
47			
48	Fixed data-2		
49			
4A		Fixed data-1 (Initialized data)	
4B			
4C			
4D			
4E			
4F			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
5A			
5B			
5C			
5D			
5E			
5F			
60			
61			
62			

Address	Initial value	Remark
63		Fixed data-1 (Initialized data)
64		
65		
66		
67		
68		
69		
6A		
6B		
6C		
6D		
6E		
6F		
70	Fixed data-2	
71		
72		
73	Fixed data-1 (Initialized data)	
74		
75		
76		
77	Fixed data-2	
78	Fixed data-1 (Initialized data)	
79		
7A		
7B		
7C		
7D		
7E		
7F		
80		
81		
82		
83		
84		
85		
86		
87		
88		
89		
8A		
8B		
8C		
8D		
8E		
8F		
90		
91		
92	Fixed data-2	
93	Fixed data-1 (Initialized data)	
94		
95		
96		

Address	Initial value	Remark
97		Fixed data-1 (Initialized data)
98		
99		
9A		
9B	Fixed data-2	Fixed data-2
9C		
9D		

1-3. CAMERA SYSTEM ADJUSTMENTS

1. Adjustment points when major parts have been replaced

When the CCD imager or lens block is replaced, adjust the items indicated by ○ in the following table.

	When the CCD imager is replaced	When the lens block is replaced
HALL adjustment		○
Flange back adjustment	○	○
Color reproduction adjustment	○	○
Auto white balance reference data input	○	○
Auto white balance adjustment	○	○

Note: The above described table is applied to MVC-FD71 model.

2. Power supply voltage check (FC-66 board)

Subject	Any subject
Measuring equipment	Digital voltmeter
D3.2 V check	
Measurement Point	CN401 ① Pin (CN401 ⑯ Pin: GND)
Specification Value	3.20 ± 0.1 Vdc
CAM15 V check	
Measurement Point	CN101 ⑧ Pin (CN101 ④ Pin: GND)
Specification Value	15.00 ± 0.4 Vdc
CAM -5.5 V check	
Measurement Point	CN101 ⑤ Pin (CN101 ④ Pin: GND)
Specification Value	-5.5 ^{+0.2} / _{-0.3} Vdc

Check procedure

- 1) Check that all power supply voltages satisfy the specified value.

3. HALL adjustment

This adjustment sets the amplifier gain and offset to detect the iris position of the lens. If disordered, the iris will oscillate or the indoor-outdoor white balance will be faulty.

Subject	Any subject
Measurement point	DDS display on LCD screen
Measuring equipment	
Adjustment page	F
Adjustment address	C7, C8
Specification value	When data on page: 2, address: 01 is 01, (Note 1) Displayed data is 12 to 16. When data on page: 2, address: 01 is 03, (Note 1) Displayed data is 76 to 7A.

Note 1: The PAUSE button on the adjustment remote commander must be pressed.

Adjustment procedure:

- 1) Set data: 01 to page: 0, address: 01.
- 2) Set data: 03 to page: 0, address: 03.
- 3) Set data: 03 to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
- 4) Set data: 40 to page: F, address: C7, and press the PAUSE button on the adjustment remote commander.
- 5) Read DDS displayed data (Note 2), and assume it as W₂.

Note 2: Lower 2 digits displayed at the lower right of LCD screen.

00 00 XX
 ↓
 W₂

- 6) Set data: 30 to page: F, address: C7, and press the PAUSE button on the adjustment remote commander.
- 7) Read DDS displayed data, and assume it as W₁.
- 8) Set data: 01 to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
- 9) Set data: 30 to page: F, address: C7, and press the PAUSE button on the adjustment remote commander.
- 10) Read DDS displayed data, and assume it as K₁.
- 11) Set data: 40 to page: F, address: C7, and press the PAUSE button on the adjustment remote commander.
- 12) Read DDS displayed data, and assume it as K₂.
- 13) Convert W₁, W₂, K₁, and K₂ into decimal numbers to get W₁', W₂', K₁', and K₂' (see Table 5-1-1. Hexadecimal-Decimal Conversion table).
- 14) Calculate X₁' with the formulas given below (calculate decimal numbers).

$$A' = W_2' + K_1' - W_1' - K_2' \dots\dots\dots \text{Formula 1}$$

$$B' = W_1' - K_1' \dots\dots\dots \text{Formula 2}$$

$$X_1' = \frac{1600 + (48 \times A') - (16 \times B')}{A'} \dots\dots\dots \text{Formula 3}$$
- 15) Convert X₁' into hexadecimal number to get X₁.
(Round off the decimal place.)
- 16) Set data: X₁ to page: F, address: C7, and press the PAUSE button on the adjustment remote commander.
- 17) Set data: 01 to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
- 18) Change the data on page: F, address: C8, so that DDS displayed data is "14".
- 19) Press the PAUSE button on the adjustment remote commander.
- 20) Set data: 03 to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.

- 21) Read DDS displayed data, and assume it as W_0 . If W_0 is in a range of “76 to 7A”, perform “processing after adjustment finished”. If out of the range, make the following adjustment.
- 22) Convert W_0 into decimal number to get W_0' .
- 23) Calculate X_2' with the formulas given below (calculate decimal numbers).
 $C' = W_0' + K_1' - W_1' - 20$ Formula 4
 $X_2' = \frac{(100 - B') \times (X_1' - 48) + (48 \times C')}{C'}$ Formula 5
 (X_1' is obtained from formula 3)
- 24) Convert X_2' into decimal number to get X_2 .
 (Round off the decimal place.)
- 25) Set data: X_2 to page: F, address: C7, and press the PAUSE button on the adjustment remote commander.
- 26) Change the data on page: F, address: C8, so that DDS displayed data is “78”.
- 27) Press the PAUSE button on the adjustment remote commander.
- 28) Set data: 01 to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
- 29) Confirm that DDS displayed data is in a range of “12 to 16”.

Processing after adjustment finished:

- 1) Set data: 00 to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
- 2) Set data: 00 to page: 0, address: 03.
- 3) Set data: 00 to page: 0, address: 01.

4. Flange back adjustment

The flange back of inner focus lens is adjusted auto-matically. If shifted, the AUTO FOCUS and MANUAL FOCUS are disordered.

Subject	Flange back adjustment chart (2 m $\pm$ 5 mm position from lens front) (Illuminance: 250 $\pm$ 50 lux)
Measurement point Measuring equipment	Operation check on LCD screen
Adjustment page	F
Adjustment address	B6 to BB, BE to C5

Adjustment procedure:

- 1) Confirm that the center of flange back adjustment chart coincides with the center of image screen with the zoom lens at the TELE position and WIDE position respectively.
- 2) Set data: 01 to page: 0, address: 01.
- 3) Make sure that the data on page: F, address: B6 to BB, BE to C5 are initial values listed in table below.

Address	Data	Address	Data	Address	Data
B6	CD	BE	00	C4	2E
B7	19	BF	00	C5	00
B8	92	C0	41		
B9	21	C1	00		
BA	12	C2	19		
BB	14	C3	00		

- 4) Confirm that the data on page: 2, address: 02 is “00”.
- 5) Set data: 13 to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
- 6) Set data: 15 to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
 (The adjustment data are automatically entered to page: F, address: B6 to BB, BE to C5.)
- 7) Confirm that the data on page: 2, address: 02 is “01”.

Processing after adjustment finished:

- 1) Set data: 00 to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
- 2) Turn off the main power supply (7.2 V).

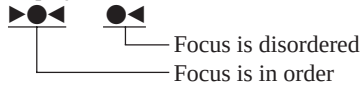
5. Flange back check

Subject	Siemens Star (2 m position from lens front) (Illuminance: about 200 lux)
Measurement point	Check on LCD screen
Measuring equipment	
Specification value	Focus is in order at TELE position and WIDE position

Switch setting:

- 1) AUTO FOCUS/MANUAL AUTO FOCUS

Note 1: When the AUTO FOCUS is turned on, whether the focus is in order or disordered can be judged from the LCD display .



Checking procedure:

- 1) Place the Siemens Star at 2 m position from the front face of lens.
- 2) Reduce the illuminance of lighting to the Siemens star to the extent that noise does not appear on the LCD screen, so as to make the iris open.
- 3) Shoot the Siemens Star with the zoom lens at TELE position.
- 4) Turn on the AUTO FOCUS.
- 5) Confirm that the focus is in order. (Note 1)
- 6) Set data: 10 to page: 2, address: 21, and press the PAUSE button on the adjustment remote commander.
- 7) Shoot the Siemens Star with the zoom lens at WIDE position.
- 8) Confirm that the focus is in order.

Processing after checking finished:

- 1) Set data: 00 to page: 2, address: 21, and press the PAUSE button on the adjustment remote commander.
- 2) Set data: 00 to page: 0, address: 03.

6. Picture frame setting

Subject	Color bar chart standard picture frame
Measurement point	Test point (VG) of CPC-9 jig
Measuring equipment	Oscilloscope and LCD screen
Specification value	A=B, C=D, $t=0 \pm 0.1$ msec

Switch setting:

- 1) AUTO FOCUS/MANUAL MANUAL FOCUS

Setting procedure:

- 1) Adjust the focus using the focus knob.
- 2) Adjust direction and zoom of camera so that the picture frame is adjusted as specified by Fig. 5-1-8 and Fig. 5-1-9.
- 3) Write down markings on the picture frame on the monitor screen. If the "color bar chart standard picture frame" or "white pattern standard picture frame" is specified in the following adjustment items, obtain this picture frame.

Confirm with an oscilloscope (TP-VG of CPC-9 jig)

Horizontal rate

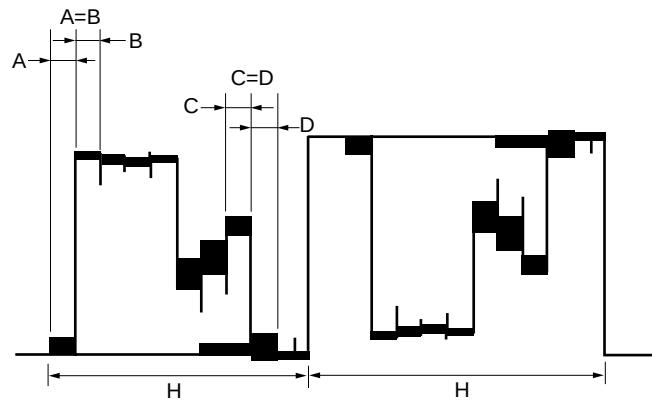


Fig. 5-1-8

Vertical rate

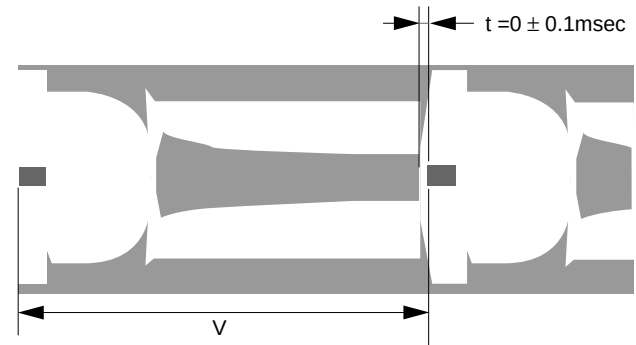


Fig. 5-1-9

Confirm on LCD (underscanned display)

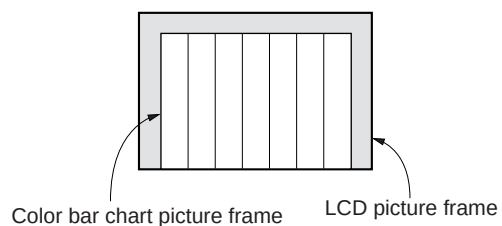


Fig. 5-1-10

7. Light level adjustment

Subject	Clear chart (Shoot with color bar standard picture frame)
Adjustment page	F
Adjustment address	CA, CB

Note 1: The picture frame must be already set.

Note 2: The data on page: 2, address: 02 must be "00".
(Turn off/on the power, if data is "01".)

Adjustment procedure:

- 1) Set data: 01 to page: 0, address: 01.
- 2) Set data: 58 to page: 2, address: 10, and press the PAUSE button on the adjustment remote commander.
- 3) Turn off the HOLD switch on the adjustment remote commander.
- 4) After more than 2 seconds, turn on the the HOLD switch on the adjustment remote commander.
- 5) Shoot the clear chart with the color bar standard picture frame.
- 6) Set data: 0D to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
(The adjustment data are automatically entered to page: F, address: CA, CB.)
- 7) Confirm that the data on page: 2, address: 02 is "01".

Processing after adjustment finished:

- 1) Set data: 00 to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
- 2) Set data: 00 to page: 2, address: 10, and press the PAUSE button on the adjustment remote commander.

8. Auto white balance reference data input

Subject	Clear chart (Shoot with color bar standard picture frame)
Adjustment page	F
Adjustment address	CC to CF

Note: The data on page: 2, address: 02 must be "00".
(Turn off/on the power, if data is "01".)

Adjustment procedure:

- 1) Set data: 01 to page: 0, address: 01.
- 2) Set data: 0A to page: E, address: 11, and press the PAUSE button on the adjustment remote commander.
- 3) Set data: 58 to page: 2, address: 10, and press the PAUSE button on the adjustment remote commander.
- 4) Turn off the HOLD switch on the adjustment remote commander.
- 5) After more than 2 seconds, turn on the the HOLD switch on the adjustment remote commander.
- 6) Shoot the clear chart with the color bar standard picture frame.
- 7) Set data: 11 to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
(The auto white balance reference data are entered, and they are set automatically to page F, address: CC to CF.)
- 8) Set data: 0B to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
(The auto white balance reference data are entered, and they are set automatically to page F, address: CC to CF.)
- 9) Confirm that the data on page: 2, address: 02 is "01".

Processing after adjustment finished:

- 1) Set data: 00 to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
- 2) Set data: 15 to page: E, address: 11, and press the PAUSE button on the adjustment remote commander.
- 3) Set data: 00 to page: 2, address: 10, and press the PAUSE button on the adjustment remote commander.
- 4) Set data: 00 to page: 0, address: 01.
- 5) Perform "Auto white balance adjustment".

9. Auto white balance adjustment

This adjustment corrects the output data of auto white balance. If disordered, the colors will not be reproduced correctly in the auto white balance mode.

Subject	Clear chart (Shoot with color bar standard picture frame)
Filter	Color temperature compensating filter C14
Measurement point	Check DDS display on LCD screen
Measuring equipment	(Note 2)
Adjustment page	F
Adjustment address	D3, D4
Specification value	R ratio: 2B40 to 2BC0 B ratio: 5E40 to 5EC0

Note 1: “Auto white balance reference data input” must be already finished.

Note 2: Right side 2 digits of data displayed at the lower right of LCD screen.

00 00 XX
→ Displayed data

Adjustment procedure:

- 1) Put the color temperature compensating filter C14 on the lens.
- 2) Set data: 01 to page: 0, address: 01.
- 3) Set data: 58 to page: 2, address: 10, and press the PAUSE button on the adjustment remote commander.
- 4) Turn off the HOLD switch on the adjustment remote commander.
- 5) After more than 2 seconds, turn on the the HOLD switch on the adjustment remote commander.
- 6) Set data: 0A to page: E, address: 11, and press the PAUSE button on the adjustment remote commander.
- 7) Set data: 3F to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
- 8) Set data: 04 to page: 0, address: 03.
- 9) Change the data on page: F, address: D3 so that average value of DDS displayed data (Note 2) satisfies the R ratio specification value.
- 10) Press the PAUSE button on the adjustment remote commander.
- 11) Set data: 05 to page: 0, address: 03.
- 12) Change the data on page: F, address: D4 so that average value of DDS displayed data satisfies the B ratio specification value.
- 13) Press the PAUSE button on the adjustment remote commander.

Processing after adjustment finished:

- 1) Set data: 00 to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
- 2) Set data: 00 to page: 0, address: 03.
- 3) Set data: 00 to page: 2, address: 10, and press the PAUSE button on the adjustment remote commander.
- 4) Set data: 15 to page: E, address: 11, and press the PAUSE button on the adjustment remote commander.
- 5) Set data: 00 to page: 0, address: 01.

10. White balance check

Subject	Clear chart (Shoot with color bar standard picture frame)
Filter	ND filter 1.0 and 0.3
Measurement point	Check DDS display on LCD screen (Note 1, 2)
Specification value	When data:0F is set to page: 2, address: 01 (Note 1) R-Y: 00 to 04 or FC to FF B-Y: 00 to 04 or FC to FF When data: 00 is set to page: 0, address: 00 (Note 2) 0E10 or more

Note 1: Right side 4 digits of data displayed at the lower right of LCD screen.

00 XX XX
→ R-Y
→ B-Y

Note 2: Data displayed at the lower right of LCD screen.

00 XX XX
→ Displayed data

Adjustment procedure:

- 1) Set data: 01 to page: 0, address: 01.
- 2) Set data: 58 to page: 2, address: 10, and press the PAUSE button on the adjustment remote commander.
- 3) Turn off the HOLD switch on the adjustment remote commander.
- 4) After more than 2 seconds, turn on the the HOLD switch on the adjustment remote commander.
- 5) Set data: 15 to page: E, address: 11, and press the PAUSE button on the adjustment remote commander.
- 6) Set data: 02 to page: 0, address: 03.
- 7) Set data: 56 to page: 2, address: 56, and press the PAUSE button on the adjustment remote commander.
- 8) Set data: 0F to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
- 9) Confirm that the DDS displayed data (Note 1) is in a range of “00 to 04” or “FC to FF”.
- 10) Set data: 00 to page: 0, address: 00.
- 11) Confirm that the DDS displayed data (Note 2) is more than “E10”.
- 12) Put the ND filter 1.3 (1.0 + 0.3) on the lens.
- 13) Confirm that the DDS displayed data (Note 2) is less than “D0”.

Processing after adjustment finished:

- 1) Set data: 00 to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
- 2) Set data: 00 to page: 2, address: 56, and press the PAUSE button on the adjustment remote commander.
- 3) Set data: 00 to page: 2, address: 10, and press the PAUSE button on the adjustment remote commander.
- 4) Set data: 00 to page: 0, address: 01.

11. Hue gain adjustment

Adjust the color separation matrix coefficient so that proper color reproduction is produced.

Subject	Color bar chart standard picture frame
Adjustment Page	E
Adjustment Address	23 to 2A
Specification Value	Shoot the color bar chart and save it on a FD. Play back the recorded FD and compare it on a PC display with the color bar playback of the alignment FD.

PC: Personal computer

FD: Floppy disk

Note 1: Auto white balance reference data input and Auto white balance adjustment must be already set.

Adjustment procedure:

- 1) Set data: 01 to page: 0, address: 01.
- 2) Set data: 0A to page: E, address: 11, and press the PAUSE button on the adjustment remote commander.
- 3) Set data: 0F to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
- 4) Set data: 59 to page: 2, address: 10, and press the PAUSE button on the adjustment remote commander.
- 5) Turn off the HOLD switch on the adjustment remote commander.
- 6) After more than 2 seconds, turn on the the HOLD switch on the adjustment remote commander.
- 7) Change the data of page: E, address: 23 to 2A, and compare the colors. If you find color differences, adjust the following data slightly and press the PAUSE button on the adjustment remote commander.

Note 2: We recommend you to take note the red and yellow data before starting adjustment.

[Reference]

This illustration shows the color changes on vector scope display when address: 23 to 2A are changed.

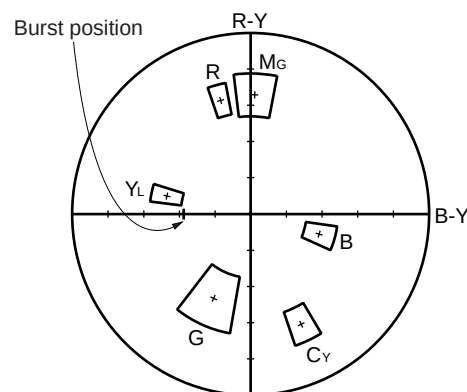


Fig. 5-1-11

Processing after adjustment finished:

- 1) Set data: 15 to page: E, address: 11, and press the PAUSE button on the adjustment remote commander.
- 2) Set data: 00 to page: 2, address: 01, and press the PAUSE button on the adjustment remote commander.
- 3) Set data: 00 to page: 2, address: 10, and press the PAUSE button on the adjustment remote commander.
- 4) Set data: 00 to page: 0, address: 01.

1-4. LCD SYSTEM ADJUSTMENT

Note 1: A back light (fluorescent tube) is driven with high voltage AC power. Therefore, do not touch the back light directly, otherwise you will feel an electric shock.

Note 2: Take an extreme care not to destroy the LCD unit by static electricity when replacing it.

[Connector for adjustment]

The measurement points for LCD adjustment are located almost at the CN802 on the PK-43 board.

Connect the measuring equipment via CPC-9 jig (J-6082-393-B).

The pin No. and signal name of CN802 are listed below.

Pin No.	Signal Name	Pin No.	Signal Name
1	PANEL B	10	UNREG
2	PANEL G	11	LANC IN
3	PANEL R	12	LANC OUT
4	REG GND	13	XPWR SW
5	JIG XHD	14	MAKER RECOG
6	JIG XVD	15	INDEX
7	HSY	16	TRACK 00
8	COM	17	NC
9	VG	18	FDD RF

[LCD type judging method]

The LCD type can be judged by measuring resistance between ④ pin and ⑭ pin of CPC-9 jig.

Resistance	LCD Type
10 k Ω	SHARP
0 Ω	CASIO

Alignment disk (Disk-1, Disk-2)

(A set of alignment disks consists of two disks as a pair.)

Disk-1: 8-967-990-01

(TFD2-1 (+)) (+17.5 μ m)

Disk-2: 8-967-990-11

(TFD2-2 (-)) (-17.5 μ m)

[Common signals in the disks]

Data Code	Signal
MVC-001C.JPG	Color bars
MVC-002M.JPG	Monoscope
MVC-003V.JPG	V. COM adjustment signal
MVC-004W.JPG	100% white
MVC-005H.JPG	50% white
MVC-006T.JPG	Stair-step signal of 10 steps
MVC-007R.JPG	Red single color
MVC-008G.JPG	Green single color
MVC-009B.JPG	Blue single color
MVC-010D.JPG	Camera color bars
MVC-011N.JPG	Camera monoscope

- Contents of alignment disk-1
(Common signal) + (+17.5 μ m alignment)
- Contents of alignment disk-2
(Common signal) + (-17.5 μ m alignment)

Digital voltmeter

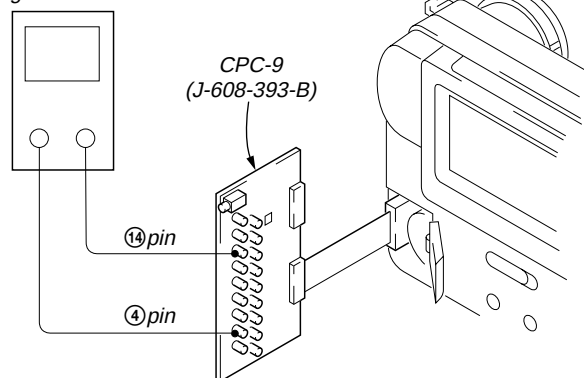


Fig. 5-1-12

1. Power supply voltage check (FC-66 board)

Mode	Camera record
Subject	Any subject
Measuring Equipment	Digital voltmeter
PANEL 4.9 V check	
Measuring Point	CN602 pin ⑤
Specification Value	4.9 ± 0.1 Vdc
PANEL 3.2 V check	
Measuring Point	CN602 pin ⑦
Specification Value	3.20 ± 0.1 Vdc
PANEL 6.5 V check	
Measuring Point	CN602 pin ⑨
Specification Value	6.5 ± 0.4 Vdc
PANEL 13.2 V check	
Measuring Point	CN602 pin ⑥
Specification Value	13.2 ± 0.4 Vdc
PANEL -15.3 V check	
Measuring Point	CN602 pin ⑧
Specification Value	-15.3 ± 0.4 Vdc

2. EVR initial data input

Mode	Playback
Signal	Any
Adjustment page	F
Adjustment address	30, 33 to 39, 3B

Adjustment procedure:

- 1) Set data: 01 to page: 0, address: 01.
- 2) Select page: F, and enter the data given in the following table.

Note: Press the PAUSE button on the adjustment remote commander each time the data are set, as the data are written to nonvolatile memory (EEPROM).

Address	Data		Remarks
	SHARP	CASIO	
30	BC	BB	BRIGHT adjustment
33	B9	77	White balance adjustment
34	B7	7A	White balance adjustment
35	BE	DB	CONTRAST adjustment
36	61	73	VCO adjustment
37	74	97	V-COM adjustment
38	C8	78	D RANGE adjustment
39	7C	36	V-COM level adjustment
3B	72	5E	Fixed value

Processing after adjustment finished:

- 1) Set data: 00 to page: 0, address: 01.

3. VCO adjustment (PK-43 board)

Set the VCO free run frequency.

If disordered, LCD screen will be faulty.

Mode	Stop
Signal	None
Measurement point	PK-43 board CN802 ⑦ pin (HSY)
Measuring equipment	Frequency counter
Adjustment page	F
Adjustment address	36
Specification value	15734 ± 30 Hz

Adjustment procedure:

- 1) Set data: 01 to page: 0, address: 01.
- 2) Set data: 20 to page: 3, address: 18, and press the PAUSE button on the adjustment remote commander.
- 3) Change the data on page: F, address: 36 so that the HSY signal frequency satisfies the specification value.
- 4) Press the PAUSE button on the adjustment remote commander.

Processing after adjustment finished:

- 1) Set data: 00 to page: 3, address: 18, and press the PAUSE button on the adjustment remote commander.
- 2) Set data: 00 to page: 0, address: 01.

4. D RANGE adjustment (PK-43 board)

This adjustment sets correctly the D range of LCD driver.
If disordered, LCD screen will blur or white blur.

Mode	Playback
Signal	Alignment disk: Stair-step signal of 10 steps
Measurement point	CN802 ⑨ pin (VG) External trigger: CN802 ⑦ pin (HSY)
Measuring equipment	Oscilloscope
Adjustment page	F
Adjustment address	38
Specification value	A=3.99 ± 0.05 Vp-p (SHARP) A=3.12 ± 0.05 Vp-p (CASIO)

Adjustment procedure:

- 1) Set data: 01 to page: 0, address: 01.
- 2) Change the data on page: F, address: 38 so that the voltage (A) between pedestal of inverted waveform and pedestal of noninverted waveform satisfies the specification value.
- 3) Press the PAUSE button on the adjustment remote commander.

Processing after adjustment finished:

- 1) Set data: 00 to page: 0, address: 01.

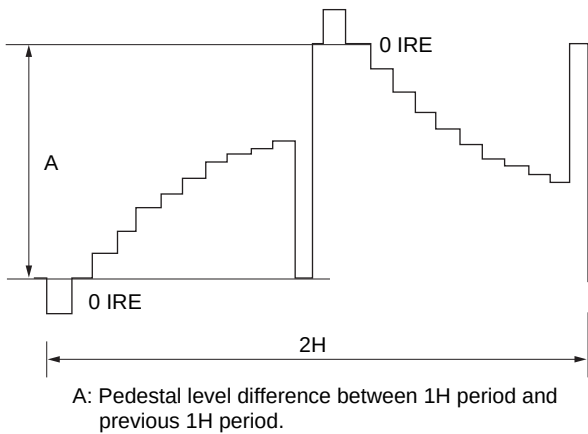


Fig. 5-1-13

5. BRIGHT adjustment (PK-43 board)

This adjustment sets correctly the VIDEO signal level that drives the LCD. If disordered, LCD screen will not be sharp, or will white blur or black blur.

Mode	Playback
Signal	Alignment disk: Stair-step signal of 10 steps
Measurement point	CN802 ⑨ pin (VG) External trigger: CN802 ⑦ pin (HSY)
Measuring equipment	Oscilloscope
Adjustment page	F
Adjustment address	30
Specification value	A=1.78 ± 0.05 Vp-p (SHARP) A=1.43 ± 0.05 Vp-p (CASIO)

Adjustment procedure:

- 1) Set data: 01 to page: 0, address: 01.
- 2) Set data: 08 to page: 3, address: 18, and press the PAUSE button on the adjustment remote commander.
- 3) Change the data on page: F, address: 30 so that the voltage (A) satisfies the specification value. (Confirm that the data at address: 30 is more than “41”, and less than “BF”.)
- 4) Press the PAUSE button on the adjustment remote commander.

Processing after adjustment finished:

- 1) Set data: 00 to page: 3, address: 18, and press the PAUSE button on the adjustment remote commander.
- 2) Set data: 00 to page: 0, address: 01.

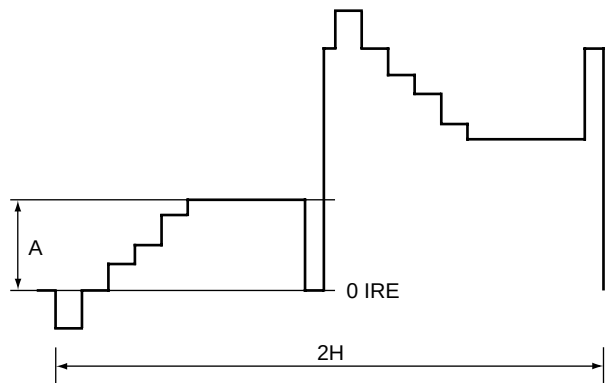


Fig. 5-1-14

6. CONTRAST adjustment (PK-43 board)

This adjustment sets correctly the VIDEO signal level that drives the LCD. If disordered, LCD screen will not be sharp, or will white blur or black blur.

Mode	Playback
Signal	Alignment disk: Stair-step signal of 10 steps
Measurement point	CN802 ⑨ pin (VG) External trigger: CN802 ⑦ pin (HSY)
Measuring equipment	Oscilloscope
Adjustment page	F
Adjustment address	35
Specification value	$A=2.90 \pm 0.07$ Vp-p (SHARP) $A=2.18 \pm 0.07$ Vp-p (CASIO)

Adjustment procedure:

- 1) Set data: 01 to page: 0, address: 01.
- 2) Change the data on page: F, address: 35 so that the voltage (A) between pedestal (0IRE) and 100IRE satisfies the specification value.
- 3) Press the PAUSE button on the adjustment remote commander.

Processing after adjustment finished:

- 1) Set data: 00 to page: 0, address: 01.
- 2) Confirm that the specification value of the "BRIGHT adjustment" is satisfied. If not, perform the "BRIGHT adjustment".

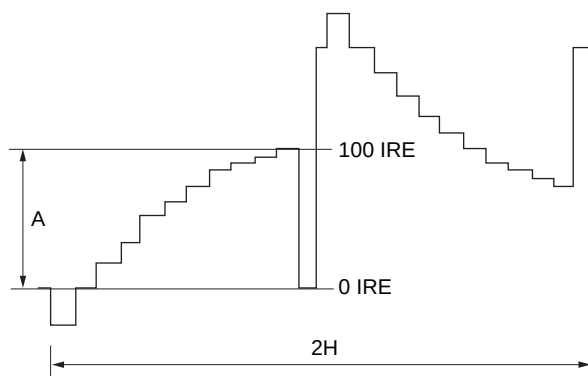


Fig. 5-1-15

7. V-COM level adjustment (PK-43 board)

This adjustment sets correctly the common electrode drive signal level of the LCD panel.

Mode	Playback
Signal	Alignment disk: Stair-step signal of 10 steps
Measurement point	CN802 ⑧ pin (COM)
Measuring equipment	Oscilloscope
Adjustment page	F
Adjustment address	39
Specification value	$A=6.50 \pm 0.05$ Vp-p (SHARP) $A=5.10 \pm 0.05$ Vp-p (CASIO)

Note: The "CONTRAST adjustment" and "BRIGHT adjustment" must be already finished.

Adjustment procedure:

- 1) Set data: 01 to page: 0, address: 01.
- 2) Change the data on page: F, address: 39 so that the COM signal level (A) satisfies the specification value.
- 3) Press the PAUSE button on the adjustment remote commander.

Processing after adjustment finished:

- 1) Set data: 00 to page: 0, address: 01.

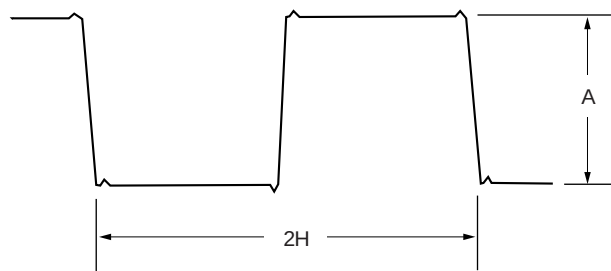


Fig. 5-1-16

8. V-COM adjustment (PK-43 board)

This adjustment corrects the DC bias of common electrode drive signals of the LCD panel. If shifted, the LCD screen will be coarse, or flicker, or vertical streaks will appear.

Mode	Playback
Signal	No signal
Measurement point Measuring equipment	Check on LCD screen
Adjustment page	F
Adjustment address	37
Specification value	The brightness difference between the section A and section B is minimum.

Note: The “CONTRAST adjustment” and “BRIGHT adjustment” must be already finished.

Adjustment procedure:

- 1) Set data: 01 to page: 0, address: 01.
- 2) Set data: 10 to page: 3, address: 18 and press the PAUSE button on the adjustment remote commander.
- 3) Change the data on page: F, address: 37 so that the brightness at part A and part B is equal.
- 4) Press the PAUSE button on the adjustment remote commander.

Processing after adjustment finished:

- 1) Set data: 00 to page: 3, address: 18 and press the PAUSE button on the adjustment remote commander.
- 2) Set data: 00 to page: 0, address: 01.

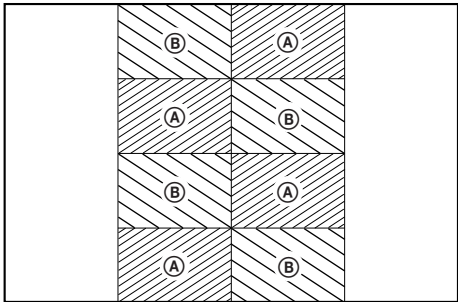


Fig. 5-1-17

9. White balance adjustment (PK-43 board)

This adjustment corrects the white balance. If disordered, the colors on LCD screen will not be reproduced correctly.

Mode	Playback
Signal	Alignment disk: 50% white signal (with burst)
Measurement point Measuring equipment	Check on LCD screen
Adjustment page	F
Adjustment address	33, 34
Specification value	LCD screen must not be colored.

Note: Check the white balance only when either of the following parts was replaced, and make adjustment only if necessary.

- 1. LCD panel
- 2. IC802

Adjustment procedure:

- 1) Set data: 01 to page: 0, address: 01.
- 2) Change the data on page:F, address: 33, 34 so that the LCD screen is not colored.
- 3) Press the PAUSE button on the adjustment remote commander.

Processing after adjustment finished:

- 1) Set data: 00 to page: 0, address: 01.

1-5. SYSTEM CONTROL ADJUSTMENT

1. Battery down adjustment (FC-66 board)

This adjustment specifies the battery end voltage. If disordered, the battery service life will be shortened, or images will be deformed at the battery end.

Mode	Camera record
Signal	Any
Measurement point	LCD screen on the adjustment remote Measuring equipment commander
Adjustment page	F
Adjustment address	18 to 1C

Switch setting:

- 1) AUTO FOCUS/MANUAL MANUAL

Connection:

- 1) Connect the regulated power supply and a digital voltmeter as shown in Fig. 5-1-18.

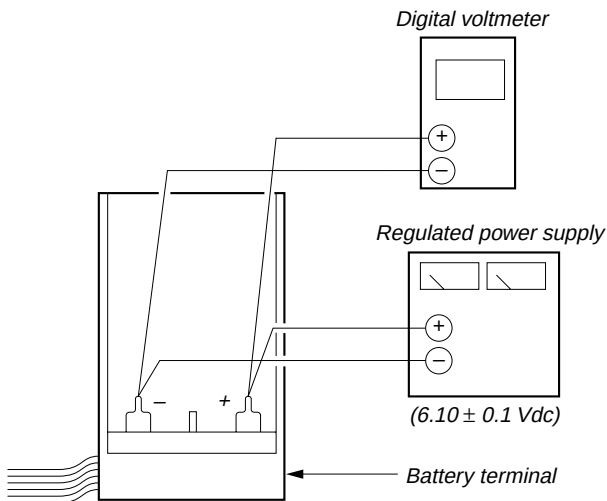


Fig. 5-1-18

Adjustment procedure:

- 1) Connect the adjustment remote commander (RM-95) via CPC-9 jig.
- 2) Adjust the output voltage of regulated power supply so that the digital voltmeter indicates $6.1 \pm 0.1 \text{ Vdc}$.

Note1: Change over the HOLD switch on the adjustment remote commander to the ADJ position immediately after the DC power was supplied.

- 3) Insert a floppy disk (already formatted), and select the CAMERA RECORD mode.
- 4) Set data: 01 to page: 0, address: 01.
- 5) Adjust the output voltage of regulated power supply so that the digital voltmeter indicates $5.80 \pm 0.01 \text{ Vdc}$.
- 6) Read the displayed data (Dref) on page: 3, address: 0D.
- 7) Set the read data (Dref) to page: F, address: 18, and press the PAUSE button on the adjustment remote commander.
- 8) Convert Dref into decimal number to get Dref'.
- 9) Calculate the adjustment data (decimal numbers) with the following formulas (calculate decimal numbers), and convert them into hexadecimal numbers, then set them to respective adjustment addresses.

Address: 19 $D_{19}' = D_{\text{ref}}' + 8$

Address: 1A $D_{1A}' = D_{\text{ref}}' + 23$

Address: 1B $D_{1B}' = D_{\text{ref}}' + 44$

Address: 1C $D_{1C}' = D_{\text{ref}}' + 55$

Note2: Be sure to press the PAUSE button on the adjustment remote commander after setting each data.

- 10) Set data: 00 to page: 0, address: 01.

2. Battery down check

Connection:

- 1) Connect same as "battery down adjustment".

Adjustment procedure:

- 1) Adjust the output voltage of the regulated power supply so that the digital voltmeter indicates $6.10 \pm 0.1 \text{ Vdc}$.
- 2) Insert a floppy disk and enter the camera recording mode. (CAM REC)
- 3) Adjust the output voltage of regulated power supply so that the digital voltmeter indicates $6.08 \pm 0.01 \text{ Vdc}$.
- 4) Confirm that a battery mark on the LCD screen blinks at 0.8 Hz.
- 5) Adjust the output voltage of regulated power supply so that the digital voltmeter indicates $5.77 \pm 0.01 \text{ Vdc}$.
- 6) Confirm that a battery mark on the LCD screen blinks at 3.2 Hz, then the power is turned off.

SECTION 6
REPAIR PARTS LIST

6-1. EXPLODED VIEWS

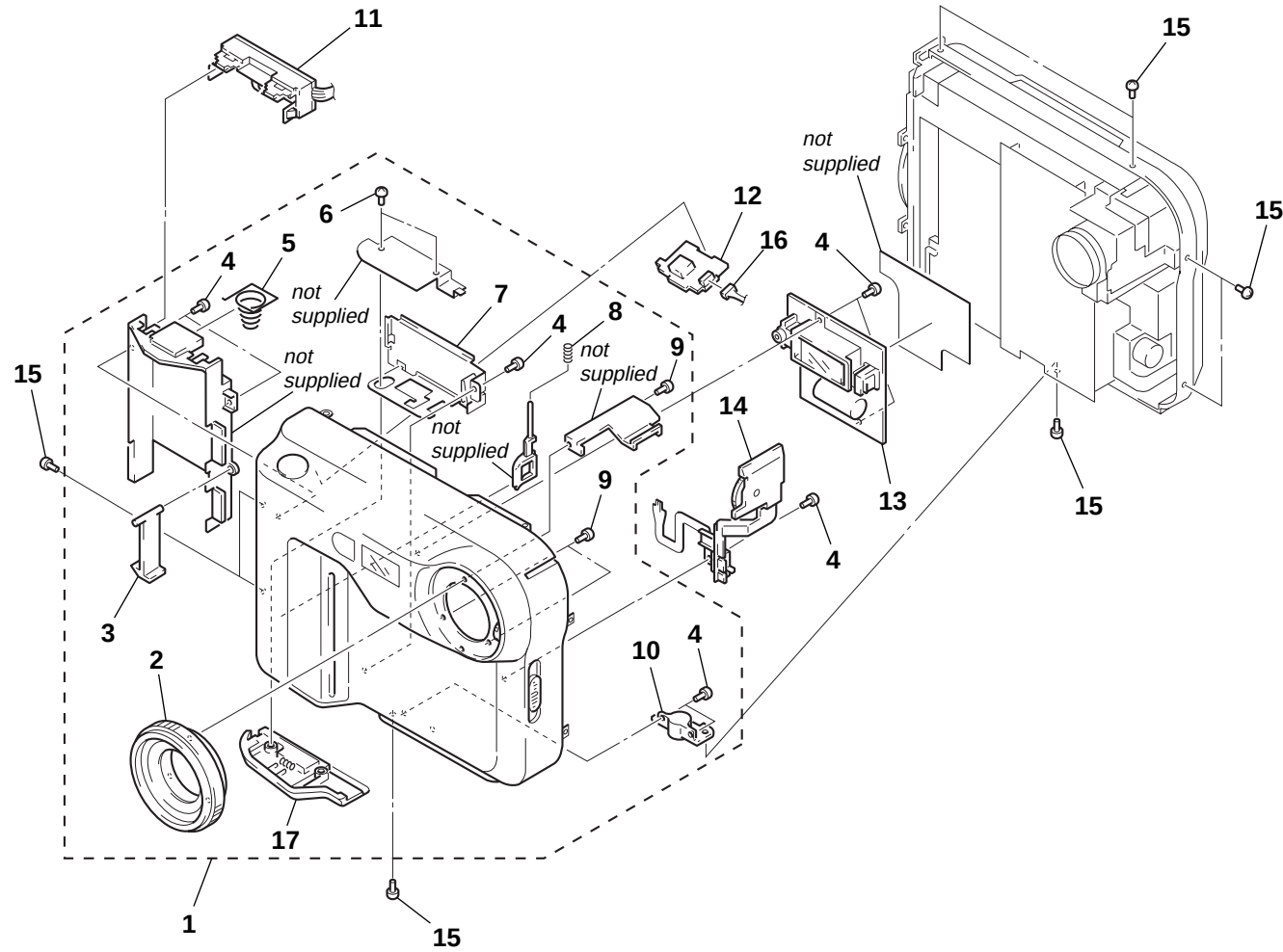
Note:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

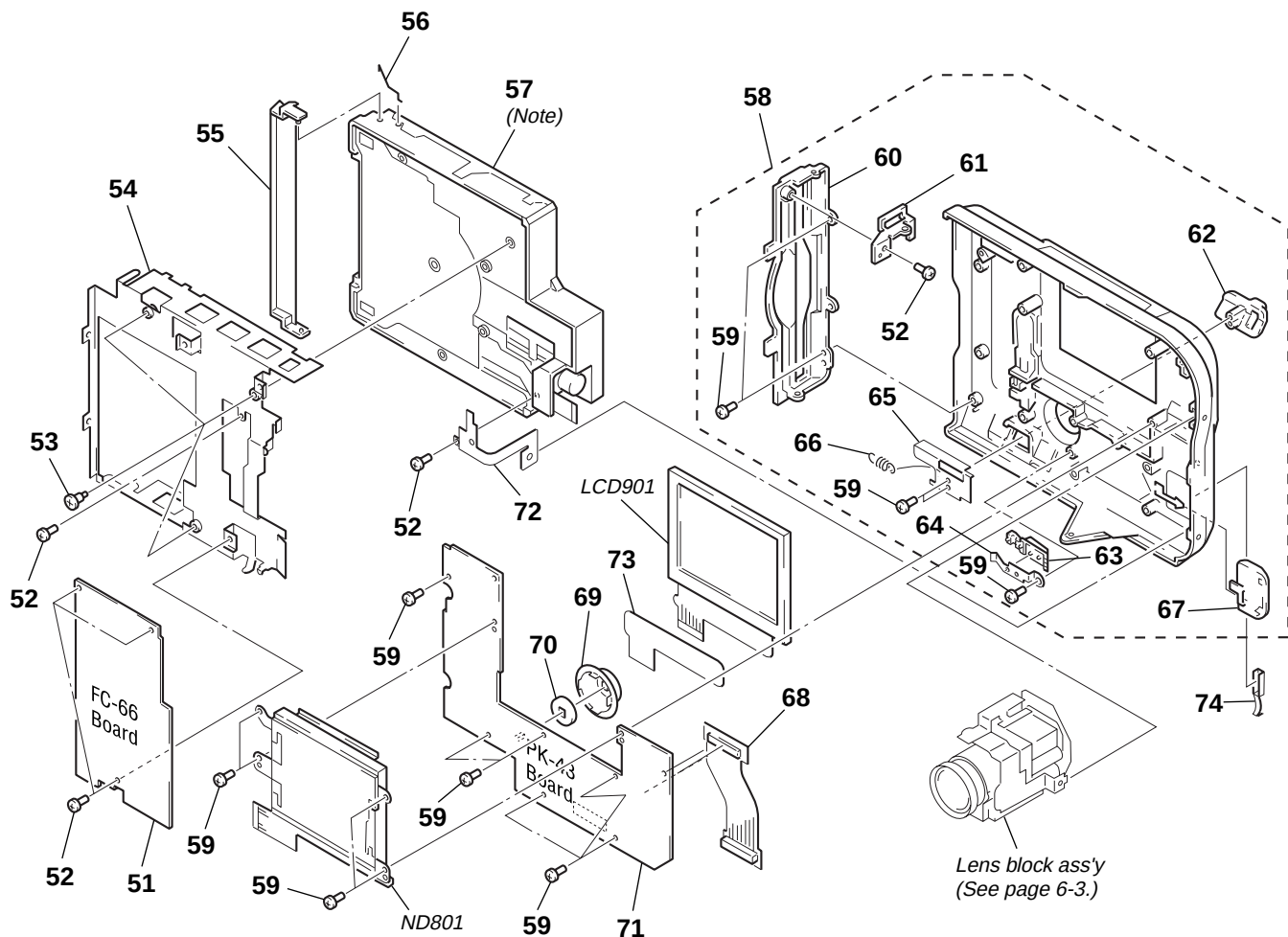
Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-1-1. CABINET (FRONT) SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	X-3948-761-1	CABINET (FRONT) ASSY		9	3-051-435-01	SCREW (M1.7)	
2	X-3948-906-1	RING ASSY, LENS		10	3-050-468-01	SCREW, TRIPOD	
3	3-977-651-11	CLAW, BT LOCK		11	1-694-297-11	TERMINAL BOARD, BATTERY	
4	3-948-339-61	TAPPING		12	A-7073-591-A	RL-50 BOARD, COMPLETE	
5	3-969-380-01	SPRING, BATTERY		Δ 13	1-475-832-11	FLASH UNIT	
6	3-736-363-31	TAPPING		14	1-475-842-11	MF BLOCK	
7	X-3948-763-1	SHAFT ASSY, BATTERY		15	3-968-729-01	SCREW (M2), LOCK ACE, P2	
* 8	3-977-653-01	SPRING, COMPRESSION		16	1-958-849-11	HARNESS (FF-188)	
				17	X-3948-918-1	LID ASSY, BATTERY	

6-1-2. CABINET (REAR) SECTION



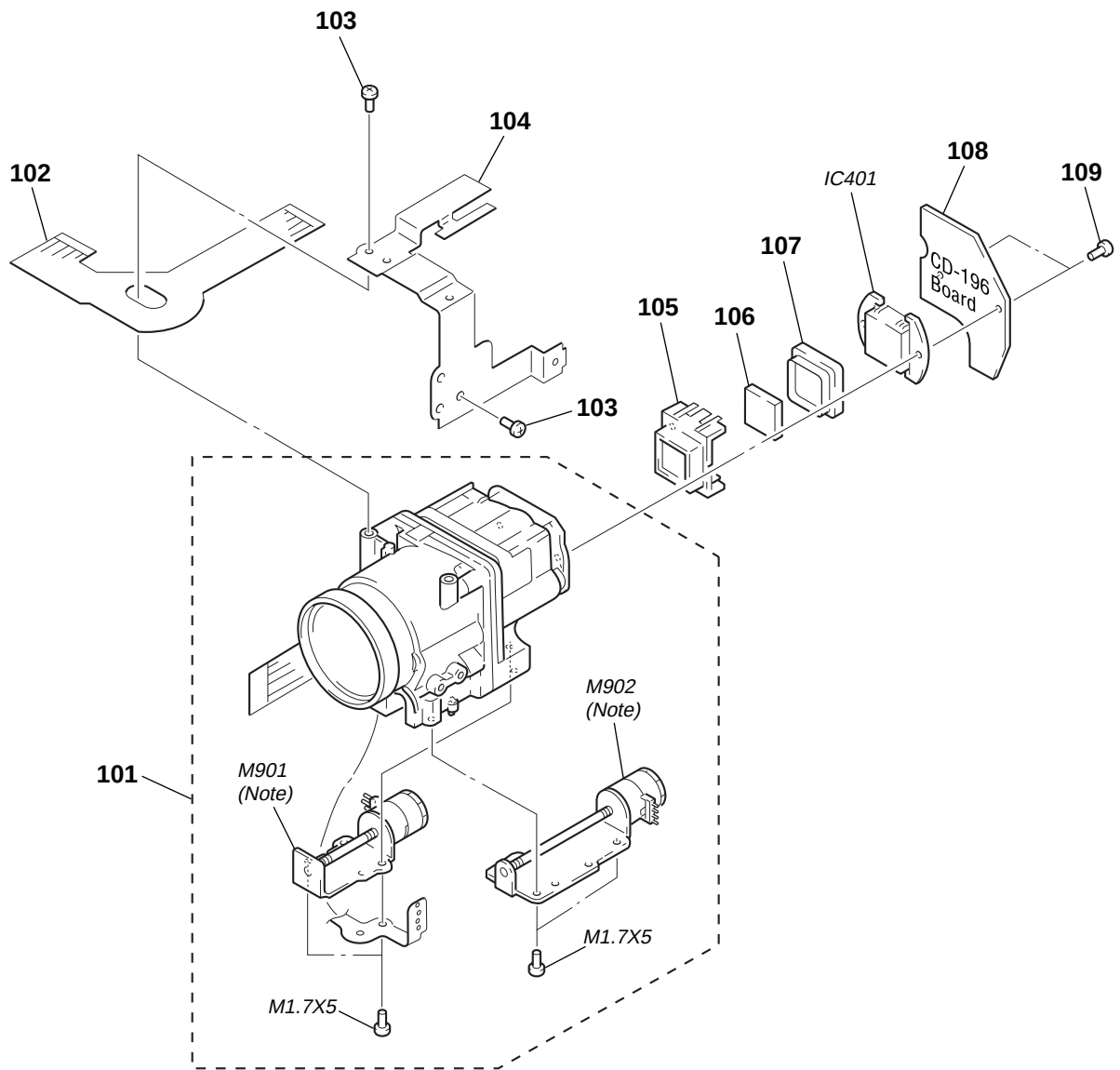
(Note) The FD block assembly is a mechanical unit which has completely been adjusted in the factory. So never disassemble the FD block assembly.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	A-7093-879-A	FC-66 BOARD, COMPLETE (SERVICE)		65	3-050-501-01	LEVER, EJECT	
52	3-713-786-21	SCREW (M2X3)		66	3-050-504-01	SPRING, LEVER	
53	3-352-483-01	SCREW (M2), STEP		67	3-050-488-01	LID, LITHIUM	
54	X-3948-765-1	FRAME ASSY, MAIN		68	1-670-486-21	FP-35 FLEXIBLE BOARD	
55	3-050-457-01	LID, SIDE		69	3-978-439-01	BUTTON, CONTROL	
56	3-050-458-01	SPRING (UPPER), SIDE		* 70	3-979-292-01	SHEET (CONTROL)	
57	1-759-679-11	DRIVE, FLOPPY DISK (3.5inch) (Note)		71	A-7093-880-A	PK-43 (CASIO) BOARD, COMPLETE (SERVICE)	
58	X-3948-762-1	CABINET (REAR) ASSY		71	A-7093-881-A	PK-43 (SHARP) BOARD, COMPLETE (SERVICE)	
59	3-948-339-61	TAPPING		72	3-050-441-01	PLATE, FD RELAY	
60	3-050-456-01	CABINET, SIDE		* 73	3-051-700-02	SHEET, BLIND	
61	3-050-467-01	SHEET METAL (R), STRAP		74	3-050-489-01	COVER, CPC	
62	3-050-500-01	KNOB, EJECT		LCD901	1-803-036-21	INDICATOR MODULE, LIQUID CRYSTAL (SHARP)	
63	3-050-906-01	BUTTON, EJECT LOCK		LCD901	1-803-184-21	INDICATOR MODULE, LIQUID CRYSTAL (CASIO)	
64	3-050-907-01	SPRING, EJECT LOCK		△ ND801	1-517-787-11	TUBE, FLUORESCENT, COLD CATHODE	

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-1-3. LENS BLOCK ASS'Y SECTION



* Be sure to read "Precautions for Replacement of CCD Imager" on page 4-6 when changing the CCD imager.

(Note) Flexible board of zoom lens is not supplied.
Please be careful not to break the flexible board when you change the motor unit.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	1-758-177-11	LENS, ZOOM (VCL-4210VD)		107	3-953-817-01	RUBBER (F), SEAL	
102	1-670-487-11	FP-34 FLEXIBLE BOARD		108	A-7073-589-A	CD-196 BOARD, COMPLETE	
103	3-318-382-21	SCREW (1.7X3), TAPPING		109	3-318-203-11	SCREW (B1.7X6), TAPPING	
* 104	3-050-439-01	FRAME, LENS		IC401	A-7030-901-A	CCD BLOCK ASSY	
105	3-953-816-01	ADAPTOR (F), CCD FITTING		M901	3-709-404-01	MOTOR UNIT, FOCUS (Note)	
106	1-758-204-11	FILTER BLOCK, OPTICAL		M902	3-709-403-01	MOTOR UNIT, ZOOM (Note)	

6-2. ELECTRICAL PARTS LIST

Note:

When indicating parts by reference number, please include the board name.

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
uF: μ F
- RESISTORS
All resistors are in ohms.
METAL: metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- COILS
uH: μ H
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA..., μ PA...,
uPB..., μ PB..., uPC..., μ PC...,
uPD..., μ PD...

Ref. No.	Part No.	Description	Remark				Ref. No.	Part No.	Description	Remark			
	A-7073-589-A	CD-196 BOARD, COMPLETE	*****				C124	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
			(Ref.No.:2,000 Series)				C125	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
		< CAPACITOR >					C126	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C401	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V		C127	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C403	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V		C128	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V	
C404	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V		C129	1-164-346-11	CERAMIC CHIP	1uF		16V	
C405	1-135-210-11	TANTALUM CHIP	4.7uF	20%	10V		C130	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V	
		< CONNECTOR >					C131	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
CN401	1-766-346-21	CONNECTOR, FFC/FPC 16P					C132	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
		< COIL >					C133	1-162-923-11	CERAMIC CHIP	47PF	5%	50V	
L401	1-414-757-11	INDUCTOR 100uH					C134	1-162-923-11	CERAMIC CHIP	47PF	5%	50V	
		< TRANSISTOR >					C135	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
Q401	8-729-117-73	TRANSISTOR 2SC4178-F13F14-T1					C302	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
		< RESISTOR >					C303	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
R401	1-216-827-11	METAL CHIP	3.3K	5%	1/16W		C401	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
R402	1-216-809-11	METAL CHIP	100	5%	1/16W		C402	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
R403	1-216-809-11	METAL CHIP	100	5%	1/16W		C403	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	
							C404	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
							C405	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
							C406	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V	
							C407	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
							C408	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V	
							C409	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
							C410	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
							C411	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
							C412	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V	
							C413	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
							C415	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
							C416	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
		< CAPACITOR >					C417	1-164-346-11	CERAMIC CHIP	1uF		16V	
C103	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V		C418	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C104	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V		C419	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C107	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V		C420	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C108	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V		C421	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C109	1-115-156-11	CERAMIC CHIP	1uF		10V		C501	1-104-852-11	TANTAL. CHIP	22uF	20%	10V	
C110	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V		C502	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C111	1-162-974-11	CERAMIC CHIP	0.01uF		50V		C503	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C112	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V		C504	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C113	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V		C601	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V	
C114	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V		C602	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C116	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V		C603	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C117	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V		C604	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C119	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V		C605	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C120	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V		C606	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C121	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V		C607	1-107-682-11	CERAMIC CHIP	1uF	10%	16V	
C122	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V		C608	1-107-682-11	CERAMIC CHIP	1uF	10%	16V	

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
C611	1-107-682-11	CERAMIC CHIP	1uF	10%	16V	C925	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C701	1-115-156-11	CERAMIC CHIP	1uF		10V	C926	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C702	1-115-156-11	CERAMIC CHIP	1uF		10V	C927	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C703	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C928	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C704	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	C929	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C706	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	C930	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C707	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C931	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C708	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	C932	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C709	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C933	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C713	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C934	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C714	1-162-917-11	CERAMIC CHIP	15PF	5%	50V	C935	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C715	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	C936	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C716	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C937	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C717	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C938	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C718	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C939	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C720	1-115-156-11	CERAMIC CHIP	1uF		10V	C940	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C724	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C942	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C725	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V	C943	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C726	1-135-091-00	TANTALUM CHIP	1uF	20%	16V	C944	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C727	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C945	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C804	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V	C946	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C805	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C947	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C806	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C948	1-135-179-21	TANTAL. CHIP	2.2uF	20%	16V
C807	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C949	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C808	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V	C950	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C809	1-104-851-11	TANTAL. CHIP	10uF	20%	10V	C951	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C810	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	< CONNECTOR >					
C811	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V	CN101	1-779-332-11	CONNECTOR, FFC/FPC 16P			
C812	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	CN401	1-779-334-11	CONNECTOR, FFC/FPC 20P			
C813	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	CN602	1-778-084-11	CONNECTOR, BOARD TO BOARD 60P			
C814	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V	CN901	1-580-057-11	PIN, CONNECTOR 4P			
C815	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	CN907	1-770-620-21	PIN, CONNECTOR 3P			
C818	1-164-315-11	CERAMIC CHIP	470PF	5%	50V	CN910	1-770-630-21	PIN, CONNECTOR 13P			
C819	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	< DIODE >					
C820	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	D701	8-719-049-09	DIODE 1SS367-T3SONY			
C821	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V	D702	8-719-404-49	DIODE MA111-TX			
C822	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	D703	8-719-049-09	DIODE 1SS367-T3SONY			
C823	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	D706	8-719-061-82	DIODE TLSU1002(TPX1,SONY) (SELF TIMER)			
C824	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	D904	8-719-027-76	DIODE 1SS357-TPH3			
C825	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	D905	8-719-027-77	DIODE MA796-TX			
C902	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V	D906	8-719-404-49	DIODE MA111-TX			
C903	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	D907	8-719-404-49	DIODE MA111-TX			
C904	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	< FUSE >					
C905	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	△F901	1-533-709-11	FUSE (SMD) (1.25A)			
C906	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	△F902	1-533-709-11	FUSE (SMD) (1.25A)			
C908	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	△F903	1-533-709-11	FUSE (SMD) (1.25A)			
C909	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	△F904	1-533-709-11	FUSE (SMD) (1.25A)			
C910	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	< FERRITE BEAD >					
C914	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V	FB101	1-500-283-11	INDUCTOR CHIP 0UH			
C915	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	FB102	1-414-228-11	INDUCTOR CHIP 0UH			
C916	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	FB103	1-500-284-21	INDUCTOR CHIP 0UH			
C918	1-162-962-11	CERAMIC CHIP	470PF	10%	50V	FB104	1-414-228-11	INDUCTOR CHIP 0UH			
C919	1-162-962-11	CERAMIC CHIP	470PF	10%	50V						
C920	1-104-913-11	TANTAL. CHIP	10uF	20%	16V						
C921	1-104-913-11	TANTAL. CHIP	10uF	20%	16V						
C922	1-162-962-11	CERAMIC CHIP	470PF	10%	50V						
C923	1-162-962-11	CERAMIC CHIP	470PF	10%	50V						
C924	1-104-913-11	TANTAL. CHIP	10uF	20%	16V						

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
< IC >				Q401	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
IC102	8-759-526-24	IC CCD1000Y/T2		Q402	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
IC103	8-752-391-91	IC CXD2450R-T4		Q403	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
IC104	8-752-394-75	IC CXD3137R-T6		Q601	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
IC301	8-759-364-05	IC M62376GP-65AD		Q602	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
IC401	8-759-337-40	IC NJM2904V(Te2)		Q603	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
IC402	8-759-365-18	IC uPD16833G3-E2		Q701	8-729-024-48	TRANSISTOR 2SK1830-TE85L	
IC403	8-752-377-38	IC CXD2430N-T4		Q702	8-729-032-62	TRANSISTOR 2SJ347-TE85L	
IC404	8-759-338-78	IC BA10324AFV-E2		Q703	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
IC405	8-759-075-66	IC TA75S01F(TE85R)		Q704	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
IC501	8-759-543-83	IC KM416V1204CT-L6		Q706	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
IC501	8-759-543-84	IC MSM51V18165BSL-60TS-K		Q707	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
IC501	8-759-546-82	IC uPD42S18165LG5-A60-7JF-E2		Q708	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
IC503	8-752-393-45	IC CXD3136R-T6		Q801	8-729-037-61	TRANSISTOR UN9113J-(K8).SO	
IC601	8-752-384-33	IC CXD3121R-T4		Q802	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
IC701	8-759-298-10	IC S-8423NFS-T2		Q803	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
IC702	8-759-561-82	IC S579284PZ-TEB		Q906	8-729-033-14	TRANSISTOR FP107-TL	
IC703	8-759-445-94	IC AK6480AM-E2		Q907	8-729-804-41	TRANSISTOR 2SB1122-ST-TD	
IC705	8-759-535-20	IC MB90097PFV-G-109-BND-ER		Q908	8-729-033-14	TRANSISTOR FP107-TL	
IC801	8-759-458-76	IC uPD72069GF-3BA		Q909	8-729-033-14	TRANSISTOR FP107-TL	
IC802	8-759-196-97	IC TC7SH32FU-TE85R		Q910	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
IC803	8-759-466-32	IC TA8563FN(EL)		Q911	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
IC804	8-759-475-48	IC TC74LCX245FT(EL)		Q912	8-729-015-60	TRANSISTOR 2SJ316-TD	
IC805	8-759-083-94	IC TC7W74FU(TE12R)		Q913	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
IC806	8-759-557-74	IC HD6437410-SGX50070-MP2		Q914	8-729-037-61	TRANSISTOR UN9113J-(K8).SO	
IC807	8-759-553-13	IC MBM29LV200B-10PFTN-FK-ER		Q915	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
IC807	8-759-553-14	IC MBM29LV200B-12PFTN-FK-ER		Q916	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
IC901	8-759-060-94	IC MB3785APFV-G-BND-ER		Q917	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
< COIL >				Q918	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
L101	1-414-754-11	INDUCTOR 10uH		Q919	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
L102	1-412-951-11	INDUCTOR 10uH		Q920	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
L301	1-412-951-11	INDUCTOR 10uH		Q921	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
L401	1-414-078-11	INDUCTOR 10uH		Q922	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
L403	1-414-078-11	INDUCTOR 10uH		Q923	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
L404	1-414-754-11	INDUCTOR 10uH		Q924	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
L501	1-412-951-11	INDUCTOR 10uH		Q925	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
L601	1-412-951-11	INDUCTOR 10uH		Q926	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
L701	1-414-754-11	INDUCTOR 10uH		Q927	8-729-037-53	TRANSISTOR 2SB1462J-QR(K8).SO	
L801	1-414-754-11	INDUCTOR 10uH		Q928	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
L802	1-414-402-11	INDUCTOR 47uH		Q929	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
L901	1-416-344-11	INDUCTOR 0uH		Q930	8-729-037-52	TRANSISTOR 2SD2216J-QR(K8).SO	
L902	1-416-344-11	INDUCTOR 0uH		< RESISTOR >			
L903	1-416-511-11	INDUCTOR 0uH		R101	1-216-857-11	METAL CHIP 1M 5% 1/16W	
L904	1-416-345-11	INDUCTOR 0uH		R102	1-216-845-11	METAL CHIP 100K 5% 1/16W	
L905	1-416-345-11	INDUCTOR 0uH		R106	1-216-864-11	METAL CHIP 0 5% 1/16W	
L906	1-412-056-11	INDUCTOR CHIP 4.7uH		R111	1-216-841-11	METAL CHIP 47K 5% 1/16W	
L907	1-412-056-11	INDUCTOR CHIP 4.7uH		R112	1-216-833-11	METAL CHIP 10K 5% 1/16W	
L908	1-412-052-21	INDUCTOR CHIP 1uH		R114	1-216-864-11	METAL CHIP 0 5% 1/16W	
L909	1-412-066-21	INDUCTOR CHIP 220uH		R115	1-216-798-11	RES,CHIP 12 5% 1/16W	
L910	1-412-056-11	INDUCTOR CHIP 4.7uH		R116	1-216-798-11	RES,CHIP 12 5% 1/16W	
< TRANSISTOR >				R119	1-216-841-11	METAL CHIP 47K 5% 1/16W	
Q101	8-729-037-61	TRANSISTOR UN9113J-(K8).SO		R121	1-216-808-11	METAL CHIP 82 5% 1/16W	
Q102	8-729-037-74	TRANSISTOR UN9213J-(K8).SO		R401	1-216-841-11	METAL CHIP 47K 5% 1/16W	
Q103	8-729-037-61	TRANSISTOR UN9113J-(K8).SO		R402	1-216-797-11	METAL CHIP 10 5% 1/16W	
Q104	8-729-037-74	TRANSISTOR UN9213J-(K8).SO		R403	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
				R404	1-216-843-11	METAL CHIP 68K 5% 1/16W	
				R405	1-216-843-11	METAL CHIP 68K 5% 1/16W	

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R406	1-216-821-11	METAL CHIP	1K	5%	1/16W	R723	1-216-821-11	METAL CHIP	1K	5%	1/16W
R407	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	R724	1-216-821-11	METAL CHIP	1K	5%	1/16W
R408	1-216-845-11	METAL CHIP	100K	5%	1/16W						
R409	1-216-833-11	METAL CHIP	10K	5%	1/16W	R725	1-216-821-11	METAL CHIP	1K	5%	1/16W
R410	1-216-845-11	METAL CHIP	100K	5%	1/16W	R726	1-216-853-11	METAL CHIP	470K	5%	1/16W
						R727	1-216-833-11	METAL CHIP	10K	5%	1/16W
R411	1-216-837-11	METAL CHIP	22K	5%	1/16W	R728	1-216-833-11	METAL CHIP	10K	5%	1/16W
R412	1-216-815-11	METAL CHIP	330	5%	1/16W	R729	1-216-833-11	METAL CHIP	10K	5%	1/16W
R413	1-216-837-11	METAL CHIP	22K	5%	1/16W						
R414	1-216-845-11	METAL CHIP	100K	5%	1/16W	R730	1-216-821-11	METAL CHIP	1K	5%	1/16W
R415	1-216-821-11	METAL CHIP	1K	5%	1/16W	R736	1-216-841-11	METAL CHIP	47K	5%	1/16W
						R737	1-216-821-11	METAL CHIP	1K	5%	1/16W
R416	1-216-837-11	METAL CHIP	22K	5%	1/16W	R738	1-216-821-11	METAL CHIP	1K	5%	1/16W
R417	1-216-848-11	METAL CHIP	180K	5%	1/16W	R739	1-216-821-11	METAL CHIP	1K	5%	1/16W
R418	1-216-833-11	METAL CHIP	10K	5%	1/16W						
R419	1-216-836-11	METAL CHIP	18K	5%	1/16W	R740	1-216-821-11	METAL CHIP	1K	5%	1/16W
R420	1-216-845-11	METAL CHIP	100K	5%	1/16W	R741	1-216-853-11	METAL CHIP	470K	5%	1/16W
						R742	1-219-570-11	RES,CHIP	10M	5%	1/16W
R422	1-216-848-11	METAL CHIP	180K	5%	1/16W	R743	1-216-853-11	METAL CHIP	470K	5%	1/16W
R423	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	R744	1-216-864-11	METAL CHIP	0	5%	1/16W
R424	1-216-851-11	METAL CHIP	330K	5%	1/16W						
R425	1-218-887-11	RES,CHIP	47K	0.50%	1/16W	R745	1-216-849-11	METAL CHIP	220K	5%	1/16W
R426	1-218-877-11	RES,CHIP	18K	0.50%	1/16W	R746	1-216-845-11	METAL CHIP	100K	5%	1/16W
						R747	1-216-817-11	METAL CHIP	470	5%	1/16W
R428	1-216-821-11	METAL CHIP	1K	5%	1/16W	R749	1-216-853-11	METAL CHIP	470K	5%	1/16W
R429	1-218-876-11	RES,CHIP	16K	0.50%	1/16W	R751	1-216-845-11	METAL CHIP	100K	5%	1/16W
R601	1-216-835-11	METAL CHIP	15K	5%	1/16W						
R605	1-216-835-11	METAL CHIP	15K	5%	1/16W	R752	1-216-821-11	METAL CHIP	1K	5%	1/16W
R606	1-216-835-11	METAL CHIP	15K	5%	1/16W	R753	1-216-833-11	METAL CHIP	10K	5%	1/16W
						R757	1-216-864-11	METAL CHIP	0	5%	1/16W
R610	1-216-821-11	METAL CHIP	1K	5%	1/16W	R759	1-216-857-11	METAL CHIP	1M	5%	1/16W
R611	1-216-840-11	METAL CHIP	39K	5%	1/16W	R761	1-216-833-11	METAL CHIP	10K	5%	1/16W
R612	1-216-834-11	METAL CHIP	12K	5%	1/16W						
R613	1-216-821-11	METAL CHIP	1K	5%	1/16W	R762	1-216-821-11	METAL CHIP	1K	5%	1/16W
R614	1-216-864-11	METAL CHIP	0	5%	1/16W	R763	1-216-821-11	METAL CHIP	1K	5%	1/16W
						R764	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R615	1-216-821-11	METAL CHIP	1K	5%	1/16W	R765	1-216-864-11	METAL CHIP	0	5%	1/16W
R616	1-216-840-11	METAL CHIP	39K	5%	1/16W	R769	1-216-845-11	METAL CHIP	100K	5%	1/16W
R617	1-216-834-11	METAL CHIP	12K	5%	1/16W						
R618	1-216-821-11	METAL CHIP	1K	5%	1/16W	R775	1-216-845-11	METAL CHIP	100K	5%	1/16W
R619	1-216-864-11	METAL CHIP	0	5%	1/16W	R776	1-216-857-11	METAL CHIP	1M	5%	1/16W
						R777	1-216-853-11	METAL CHIP	470K	5%	1/16W
R620	1-216-821-11	METAL CHIP	1K	5%	1/16W	R778	1-216-819-11	METAL CHIP	680	5%	1/16W
R621	1-216-840-11	METAL CHIP	39K	5%	1/16W	R779	1-216-845-11	METAL CHIP	100K	5%	1/16W
R622	1-216-834-11	METAL CHIP	12K	5%	1/16W						
R623	1-216-821-11	METAL CHIP	1K	5%	1/16W	R780	1-216-845-11	METAL CHIP	100K	5%	1/16W
R624	1-216-864-11	METAL CHIP	0	5%	1/16W	R802	1-216-864-11	METAL CHIP	0	5%	1/16W
						R804	1-216-864-11	METAL CHIP	0	5%	1/16W
R701	1-216-845-11	METAL CHIP	100K	5%	1/16W	R806	1-216-821-11	METAL CHIP	1K	5%	1/16W
R702	1-216-813-11	METAL CHIP	220	5%	1/16W	R807	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R703	1-216-833-11	METAL CHIP	10K	5%	1/16W						
R704	1-216-853-11	METAL CHIP	470K	5%	1/16W	R808	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R706	1-216-853-11	METAL CHIP	470K	5%	1/16W	R809	1-218-878-11	RES,CHIP	20K	0.50%	1/16W
						R810	1-218-854-11	RES,CHIP	2K	0.50%	1/16W
R707	1-216-845-11	METAL CHIP	100K	5%	1/16W	R811	1-216-833-11	METAL CHIP	10K	5%	1/16W
R708	1-216-845-11	METAL CHIP	100K	5%	1/16W	R812	1-216-821-11	METAL CHIP	1K	5%	1/16W
R709	1-216-845-11	METAL CHIP	100K	5%	1/16W						
R710	1-216-845-11	METAL CHIP	100K	5%	1/16W	R813	1-216-821-11	METAL CHIP	1K	5%	1/16W
R711	1-216-845-11	METAL CHIP	100K	5%	1/16W	R814	1-216-821-11	METAL CHIP	1K	5%	1/16W
						R815	1-216-833-11	METAL CHIP	10K	5%	1/16W
R712	1-216-853-11	METAL CHIP	470K	5%	1/16W	R816	1-216-833-11	METAL CHIP	10K	5%	1/16W
R713	1-216-853-11	METAL CHIP	470K	5%	1/16W	R817	1-216-833-11	METAL CHIP	10K	5%	1/16W
R714	1-216-853-11	METAL CHIP	470K	5%	1/16W						
R715	1-216-841-11	METAL CHIP	47K	5%	1/16W	R818	1-216-833-11	METAL CHIP	10K	5%	1/16W
R717	1-216-833-11	METAL CHIP	10K	5%	1/16W	R819	1-216-833-11	METAL CHIP	10K	5%	1/16W
						R820	1-216-833-11	METAL CHIP	10K	5%	1/16W
R718	1-216-853-11	METAL CHIP	470K	5%	1/16W	R821	1-216-833-11	METAL CHIP	10K	5%	1/16W
R721	1-216-821-11	METAL CHIP	1K	5%	1/16W	R822	1-216-833-11	METAL CHIP	10K	5%	1/16W
R722	1-216-821-11	METAL CHIP	1K	5%	1/16W						

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R823	1-216-833-11	METAL CHIP	10K	5%	1/16W	R940	1-216-864-11	METAL CHIP	0	5%	1/16W
R825	1-216-833-11	METAL CHIP	10K	5%	1/16W	R941	1-218-875-11	RES,CHIP	15K	0.50%	1/16W
R826	1-216-853-11	METAL CHIP	470K	5%	1/16W	R942	1-218-863-11	RES,CHIP	4.7K	0.50%	1/16W
R827	1-216-841-11	METAL CHIP	47K	5%	1/16W	R943	1-216-833-11	METAL CHIP	10K	5%	1/16W
R828	1-216-833-11	METAL CHIP	10K	5%	1/16W	R946	1-216-813-11	METAL CHIP	220	5%	1/16W
R829	1-216-833-11	METAL CHIP	10K	5%	1/16W	R947	1-216-819-11	METAL CHIP	680	5%	1/16W
R830	1-216-833-11	METAL CHIP	10K	5%	1/16W	R948	1-216-817-11	METAL CHIP	470	5%	1/16W
R831	1-216-833-11	METAL CHIP	10K	5%	1/16W	R949	1-216-817-11	METAL CHIP	470	5%	1/16W
R832	1-216-835-11	METAL CHIP	15K	5%	1/16W	R951	1-216-864-11	METAL CHIP	0	5%	1/16W
R860	1-216-833-11	METAL CHIP	10K	5%	1/16W	R952	1-216-845-11	METAL CHIP	100K	5%	1/16W
R862	1-216-833-11	METAL CHIP	10K	5%	1/16W	R953	1-216-845-11	METAL CHIP	100K	5%	1/16W
R864	1-216-833-11	METAL CHIP	10K	5%	1/16W	R954	1-216-821-11	METAL CHIP	1K	5%	1/16W
R866	1-216-833-11	METAL CHIP	10K	5%	1/16W	R956	1-216-845-11	METAL CHIP	100K	5%	1/16W
R868	1-216-833-11	METAL CHIP	10K	5%	1/16W	R957	1-216-841-11	METAL CHIP	47K	5%	1/16W
R869	1-216-857-11	METAL CHIP	1M	5%	1/16W	R958	1-216-837-11	METAL CHIP	22K	5%	1/16W
R870	1-216-857-11	METAL CHIP	1M	5%	1/16W	R959	1-216-864-11	METAL CHIP	0	5%	1/16W
R871	1-216-833-11	METAL CHIP	10K	5%	1/16W	R960	1-218-883-11	RES,CHIP	33K	0.50%	1/16W
R872	1-216-833-11	METAL CHIP	10K	5%	1/16W	R961	1-218-877-11	RES,CHIP	18K	0.50%	1/16W
R873	1-216-841-11	METAL CHIP	47K	5%	1/16W	R962	1-218-895-11	RES,CHIP	100K	0.50%	1/16W
R874	1-216-841-11	METAL CHIP	47K	5%	1/16W	R963	1-218-893-11	RES,CHIP	82K	0.50%	1/16W
R875	1-216-841-11	METAL CHIP	47K	5%	1/16W	R964	1-218-883-11	RES,CHIP	33K	0.50%	1/16W
R876	1-216-841-11	METAL CHIP	47K	5%	1/16W	R965	1-216-835-11	METAL CHIP	15K	5%	1/16W
R877	1-216-841-11	METAL CHIP	47K	5%	1/16W	R966	1-216-845-11	METAL CHIP	100K	5%	1/16W
R878	1-216-841-11	METAL CHIP	47K	5%	1/16W	R967	1-216-841-11	METAL CHIP	47K	5%	1/16W
R879	1-216-841-11	METAL CHIP	47K	5%	1/16W	R968	1-216-845-11	METAL CHIP	100K	5%	1/16W
R880	1-216-841-11	METAL CHIP	47K	5%	1/16W	R969	1-216-845-11	METAL CHIP	100K	5%	1/16W
R904	1-216-864-11	METAL CHIP	0	5%	1/16W	R970	1-216-845-11	METAL CHIP	100K	5%	1/16W
R909	1-218-871-11	RES,CHIP	10K	0.50%	1/16W	R971	1-216-841-11	METAL CHIP	47K	5%	1/16W
R910	1-216-850-11	METAL CHIP	270K	5%	1/16W	R972	1-216-845-11	METAL CHIP	100K	5%	1/16W
R912	1-216-864-11	METAL CHIP	0	5%	1/16W	R973	1-216-845-11	METAL CHIP	100K	5%	1/16W
R913	1-216-864-11	METAL CHIP	0	5%	1/16W	R974	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R914	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	R975	1-216-833-11	METAL CHIP	10K	5%	1/16W
R915	1-218-879-11	RES,CHIP	22K	0.50%	1/16W	R976	1-218-877-11	RES,CHIP	18K	0.50%	1/16W
R916	1-218-852-11	RES,CHIP	1.6K	0.50%	1/16W	R977	1-218-852-11	RES,CHIP	1.6K	5%	1/16W
R917	1-218-863-11	RES,CHIP	4.7K	0.50%	1/16W	R978	1-218-897-11	RES,CHIP	120K	0.50%	1/16W
R918	1-216-840-11	METAL CHIP	39K	5%	1/16W	R979	1-218-882-11	RES,CHIP	30K	0.50%	1/16W
R919	1-216-838-11	METAL CHIP	27K	5%	1/16W	R980	1-218-871-11	RES,CHIP	10K	0.50%	1/16W
R920	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	R981	1-218-889-11	RES,CHIP	56K	0.50%	1/16W
R921	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	R983	1-216-295-91	SHORT	0		
R922	1-216-864-11	METAL CHIP	0	5%	1/16W	R984	1-216-295-91	SHORT	0		
R924	1-218-871-11	RES,CHIP	10K	0.50%	1/16W	R986	1-216-841-11	METAL CHIP	47K	5%	1/16W
R925	1-218-837-11	RES,CHIP	390	0.50%	1/16W	< SHOCK SENSOR >					
R926	1-218-871-11	RES,CHIP	10K	0.50%	1/16W	SE801 1-801-868-41 SENSOR, SHOCK					
R927	1-216-847-11	METAL CHIP	150K	5%	1/16W						
R928	1-216-833-11	METAL CHIP	10K	5%	1/16W						
R929	1-216-864-11	METAL CHIP	0	5%	1/16W						
R930	1-216-829-11	METAL CHIP	4.7K	5%	1/16W						
R931	1-218-871-11	RES,CHIP	10K	0.50%	1/16W	△ T901	1-429-565-21	TRANSFORMER, CONVERTER			
R932	1-216-864-11	METAL CHIP	0	5%	1/16W	< VIBRATOR >					
R933	1-218-871-11	RES,CHIP	10K	0.50%	1/16W						
R934	1-216-841-11	METAL CHIP	47K	5%	1/16W	X101	1-767-923-11	VIBRATOR, CRYSTAL (36MHz)			
R935	1-216-843-11	METAL CHIP	68K	5%	1/16W	X701	1-767-450-11	VIBRATOR, CERAMIC (20MHz)			
R936	1-216-821-11	METAL CHIP	1K	5%	1/16W	X702	1-760-458-21	VIBRATOR, CRYSTAL (32.768kHz)			
R937	1-216-821-11	METAL CHIP	1K	5%	1/16W	X802	1-767-921-11	VIBRATOR, CERAMIC (15MHz)			
R938	1-216-864-11	METAL CHIP	0	5%	1/16W	X803	1-767-922-11	VIBRATOR, CERAMIC (16MHz)			

Note :

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Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-7093-880-A	PK-43 (CASIO) BOARD, COMPLETE (SERVICE)		C908	1-162-926-11	CERAMIC CHIP 82PF 5% 50V	
		*****		C909	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
		(Ref.No.:2,000 Series)		C911	1-164-739-11	CERAMIC CHIP 560PF 5% 50V	
		< BATTERY HOLDER >		C913	1-162-926-11	CERAMIC CHIP 82PF 5% 50V	
BH701	1-550-104-32	HOLDER, BATTERY		C915	1-107-682-11	CERAMIC CHIP 1uF 10% 16V	
		< BUZZER >		C918	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
BZ701	1-529-107-11	BUZZER, PIEZOELECTRIC		C919	1-107-689-21	TANTAL. CHIP 1uF 20% 35V	
		< CAPACITOR >		C920	1-107-682-11	CERAMIC CHIP 1uF 10% 16V	
C601	1-109-982-11	CERAMIC CHIP 1uF 10% 10V		C921	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C602	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V		C925	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C603	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V		C926	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C604	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V				< CONNECTOR >	
C605	1-113-642-11	TANTAL. CHIP 47uF 20% 10V		CN601	1-764-526-11	CONNECTOR, FFC/FPC 18P	
C606	1-113-642-11	TANTAL. CHIP 47uF 20% 10V		* CN602	1-750-075-11	CONNECTOR, FFC/FPC 10P	
C701	1-113-991-11	TANTAL. CHIP 33uF 20% 16V		CN603	1-778-598-21	CONNECTOR, BOARD TO BOARD 60P	
C702	1-107-682-11	CERAMIC CHIP 1uF 10% 16V		CN802	1-764-526-11	CONNECTOR, FFC/FPC 18P	
C703	1-165-320-11	CERAMIC CHIP 0.47uF 10% 16V		CN851	1-573-929-11	CONNECTOR, FFC/FPC (ZIF) 20P	
C801	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V		CN901	1-691-388-11	CONNECTOR, FFC/FPC (ZIF) 24P	
C802	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V				< DIODE >	
C803	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		D701	8-719-061-82	DIODE TLSU1002(TPX1,SONY) (ACCESS)	
C804	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		D702	8-719-061-81	DIODE TLYU1002(TPX1,SONY) (FLASH CHARGE)	
C805	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		D852	8-719-404-49	DIODE MA111-TX	
C806	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V		D853	8-719-404-49	DIODE MA111-TX	
C807	1-110-569-11	TANTAL. CHIP 47uF 20% 6.3V		D854	8-719-404-49	DIODE MA111-TX	
C808	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V		D903	8-713-102-80	DIODE 1T369-01-T8A	
C810	1-104-851-11	TANTAL. CHIP 10uF 20% 10V		D904	8-719-976-96	DIODE MA8047-H-TX	
C811	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V		D905	8-713-102-80	DIODE 1T369-01-T8A	
C812	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V				< IC >	
C813	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V		IC601	8-759-535-05	IC BH9530KS2	
C814	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V		IC801	8-759-530-19	IC MB40D001PFV-G-BND-ER	
C815	1-104-851-11	TANTAL. CHIP 10uF 20% 10V		IC802	8-759-486-77	IC IR3Y37M4	
C851	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		IC851	8-759-521-35	IC TL5001CDR	
C852	1-113-981-11	TANTAL. CHIP 22uF 20% 20V		IC852	8-759-075-70	IC TA75S393F-TE85R	
C853	1-163-081-00	CERAMIC CHIP 0.22uF 25V		IC901	8-759-530-20	IC CM7017L3-T4	
C854	1-135-149-21	TANTALUM CHIP 2.2uF 20% 10V		IC902	8-759-327-01	IC NJM062V(TE2)	
C855	1-164-505-11	CERAMIC CHIP 2.2uF 16V		IC903	8-759-523-03	IC TC74HC4066AFS-EL	
C856	1-162-918-11	CERAMIC CHIP 18PF 5% 50V				< COIL >	
C857	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V		L601	1-414-394-11	INDUCTOR 2.2uH	
C858	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		L701	1-412-067-21	INDUCTOR CHIP 330uH	
C859	1-162-920-11	CERAMIC CHIP 27PF 5% 50V		L801	1-414-402-11	INDUCTOR 47uH	
C861	1-104-911-11	TANTAL. CHIP 33uF 20% 10V		L802	1-414-078-11	INDUCTOR 10uH	
C862	1-164-346-11	CERAMIC CHIP 1uF 16V		L851	1-414-396-21	INDUCTOR 4.7uH	
C863	1-164-661-11	CERAMIC CHIP 0.018uF 10% 50V		L852	1-424-674-11	INDUCTOR 0uH	
C865	1-107-725-11	CERAMIC CHIP 0.1uF 10% 16V		L853	1-409-536-41	INDUCTOR 0uH	
△C866	1-113-521-11	CERAMIC CHIP 12PF 10% 3KV		L901	1-414-754-11	INDUCTOR 10uH	
C867	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V		L902	1-414-754-11	INDUCTOR 10uH	
C901	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V		L903	1-412-951-11	INDUCTOR 10uH	
C902	1-107-687-11	TANTAL. CHIP 3.3uF 20% 20V		L904	1-414-754-11	INDUCTOR 10uH	
C903	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V		L905	1-412-953-11	INDUCTOR 15uH	
C904	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V					
C905	1-110-501-11	CERAMIC CHIP 0.33uF 10% 16V					
C906	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V					
C907	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V					

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PK-43 (CASIO)

Ref. No.	Part No.	Description				Remark	Ref. No.	Part No.	Description				Remark
< TRANSISTOR >							R711	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
Q701	8-729-037-52	TRANSISTOR	2SD2216J-QR(K8).SO				R712	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
Q702	8-729-037-52	TRANSISTOR	2SD2216J-QR(K8).SO				R713	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
Q851	8-729-042-72	TRANSISTOR	UN9214J-(K8).SO				R714	1-216-815-11	METAL CHIP	330	5%	1/16W	
Q852	8-729-042-59	TRANSISTOR	UN9112J-(K8).SO				R715	1-216-826-11	METAL CHIP	2.7K	5%	1/16W	
Q853	8-729-037-74	TRANSISTOR	UN9213J-(K8).SO				R716	1-216-826-11	METAL CHIP	2.7K	5%	1/16W	
							R717	1-216-841-11	METAL CHIP	47K	5%	1/16W	
Q854	8-729-037-52	TRANSISTOR	2SD2216J-QR(K8).SO				R801	1-216-864-11	METAL CHIP	0	5%	1/16W	
Q855	8-729-037-74	TRANSISTOR	UN9213J-(K8).SO										
Q856	8-729-823-84	TRANSISTOR	FP102-TL				R804	1-216-837-11	METAL CHIP	22K	5%	1/16W	
Q857	8-729-037-52	TRANSISTOR	2SD2216J-QR(K8).SO				R805	1-216-834-11	METAL CHIP	12K	5%	1/16W	
Q858	8-729-037-52	TRANSISTOR	2SD2216J-QR(K8).SO				R806	1-216-841-11	METAL CHIP	47K	5%	1/16W	
							R812	1-216-845-11	METAL CHIP	100K	5%	1/16W	
Q859	8-729-037-74	TRANSISTOR	UN9213J-(K8).SO				R813	1-216-805-11	METAL CHIP	47	5%	1/16W	
Q860	8-729-039-43	TRANSISTOR	FP216-TL										
Q862	8-729-042-59	TRANSISTOR	UN9112J-(K8).SO				R814	1-216-805-11	METAL CHIP	47	5%	1/16W	
Q903	8-729-230-63	TRANSISTOR	2SD1819A-QRS-TX				R815	1-216-805-11	METAL CHIP	47	5%	1/16W	
Q904	8-729-420-24	TRANSISTOR	2SB1218A-QRS-TX				R816	1-216-864-11	METAL CHIP	0	5%	1/16W	
							R822	1-216-843-11	METAL CHIP	68K	5%	1/16W	
Q905	8-729-230-63	TRANSISTOR	2SD1819A-QRS-TX				R823	1-216-834-11	METAL CHIP	12K	5%	1/16W	
Q906	8-729-420-24	TRANSISTOR	2SB1218A-QRS-TX										
< RESISTOR >							R826	1-216-864-11	METAL CHIP	0	5%	1/16W	
							R827	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R601	1-216-033-00	METAL CHIP	220	5%	1/10W		R828	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R602	1-216-825-11	METAL CHIP	2.2K	5%	1/16W		R852	1-218-867-11	RES,CHIP	6.8K	0.50%	1/16W	
R603	1-216-825-11	METAL CHIP	2.2K	5%	1/16W		R853	1-218-881-11	RES,CHIP	27K	0.50%	1/16W	
R604	1-216-845-11	METAL CHIP	100K	5%	1/16W								
R605	1-216-298-00	METAL CHIP	2.2	5%	1/10W		R854	1-218-897-11	RES,CHIP	120K	0.50%	1/16W	
							R855	1-216-818-11	METAL CHIP	560	5%	1/16W	
R606	1-218-707-11	RES,CHIP	4.3K	5%	1/16W		R856	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R607	1-218-707-11	RES,CHIP	4.3K	5%	1/16W		R857	1-216-818-11	METAL CHIP	560	5%	1/16W	
R608	1-216-864-11	METAL CHIP	0	5%	1/16W		R858	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R610	1-216-864-11	METAL CHIP	0	5%	1/16W								
R612	1-218-851-11	RES,CHIP	1.5K	0.50%	1/16W		R859	1-218-871-11	RES,CHIP	10K	0.50%	1/16W	
							R860	1-218-854-11	RES,CHIP	2K	0.50%	1/16W	
R613	1-218-869-11	RES,CHIP	8.2K	0.50%	1/16W		R861	1-218-859-11	RES,CHIP	3.3K	0.50%	1/16W	
R614	1-218-863-11	RES,CHIP	4.7K	0.50%	1/16W		R862	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R615	1-218-859-11	RES,CHIP	3.3K	0.50%	1/16W		R863	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R618	1-218-887-11	RES,CHIP	47K	0.50%	1/16W								
R619	1-218-849-11	RES,CHIP	1.2K	0.50%	1/16W		R864	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
							R865	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R620	1-216-821-11	METAL CHIP	1K	5%	1/16W		R867	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R621	1-218-847-11	RES,CHIP	1K	0.50%	1/16W		R868	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R622	1-218-875-11	RES,CHIP	15K	0.50%	1/16W		R870	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R623	1-218-292-11	RES,CHIP	20K	5%	1/16W								
R624	1-216-817-11	METAL CHIP	470	5%	1/16W		R871	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	
							R872	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R625	1-216-833-11	METAL CHIP	10K	5%	1/16W		R873	1-216-817-11	METAL CHIP	470	5%	1/16W	
R626	1-216-835-11	METAL CHIP	15K	5%	1/16W		R874	1-216-810-11	METAL CHIP	120	5%	1/16W	
R627	1-216-833-11	METAL CHIP	10K	5%	1/16W		R901	1-216-864-11	METAL CHIP	0	5%	1/16W	
R628	1-216-835-11	METAL CHIP	15K	5%	1/16W								
R629	1-216-835-11	METAL CHIP	15K	5%	1/16W		R902	1-216-864-11	METAL CHIP	0	5%	1/16W	
							R905	1-216-855-11	METAL CHIP	680K	5%	1/16W	
R630	1-216-833-11	METAL CHIP	10K	5%	1/16W		R906	1-216-864-11	METAL CHIP	0	5%	1/16W	
R631	1-216-857-11	METAL CHIP	1M	5%	1/16W		R908	1-216-846-11	METAL CHIP	120K	5%	1/16W	
R632	1-216-833-11	METAL CHIP	10K	5%	1/16W		R912	1-216-842-11	METAL CHIP	56K	5%	1/16W	
R701	1-216-824-11	METAL CHIP	1.8K	5%	1/16W								
R702	1-216-819-11	METAL CHIP	680	5%	1/16W		R913	1-216-833-11	METAL CHIP	10K	5%	1/16W	
							R915	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R703	1-216-819-11	METAL CHIP	680	5%	1/16W		R916	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R705	1-216-824-11	METAL CHIP	1.8K	5%	1/16W		R918	1-216-843-11	METAL CHIP	68K	5%	1/16W	
R706	1-216-826-11	METAL CHIP	2.7K	5%	1/16W		R920	1-218-897-11	RES,CHIP	120K	0.50%	1/16W	
R707	1-216-826-11	METAL CHIP	2.7K	5%	1/16W								
R708	1-216-824-11	METAL CHIP	1.8K	5%	1/16W		R921	1-216-843-11	METAL CHIP	68K	5%	1/16W	
							R922	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R709	1-216-851-11	METAL CHIP	330K	5%	1/16W		R924	1-218-897-11	RES,CHIP	120K	0.50%	1/16W	
R710	1-216-847-11	METAL CHIP	150K	5%	1/16W		R926	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
							R929	1-216-845-11	METAL CHIP	100K	5%	1/16W	

PK-43 (CASIO)

PK-43 (SHARP)

Ref. No.	Part No.	Description	Remark
R930	1-216-839-11	METAL CHIP 33K 5%	1/16W
R932	1-216-845-11	METAL CHIP 100K 5%	1/16W
R933	1-216-845-11	METAL CHIP 100K 5%	1/16W
R934	1-216-864-11	METAL CHIP 0 5%	1/16W
R935	1-216-864-11	METAL CHIP 0 5%	1/16W
R936	1-216-864-11	METAL CHIP 0 5%	1/16W
R937	1-216-864-11	METAL CHIP 0 5%	1/16W
R938	1-216-845-11	METAL CHIP 100K 5%	1/16W
R939	1-216-839-11	METAL CHIP 33K 5%	1/16W
R940	1-216-864-11	METAL CHIP 0 5%	1/16W
R942	1-216-864-11	METAL CHIP 0 5%	1/16W
R950	1-216-864-11	METAL CHIP 0 5%	1/16W
R951	1-216-864-11	METAL CHIP 0 5%	1/16W
R952	1-216-864-11	METAL CHIP 0 5%	1/16W
R953	1-216-864-11	METAL CHIP 0 5%	1/16W
R954	1-216-864-11	METAL CHIP 0 5%	1/16W
R955	1-216-864-11	METAL CHIP 0 5%	1/16W
R957	1-216-864-11	METAL CHIP 0 5%	1/16W
R959	1-216-864-11	METAL CHIP 0 5%	1/16W
R962	1-216-836-11	METAL CHIP 18K 5%	1/16W
R963	1-216-864-11	METAL CHIP 0 5%	1/16W
R966	1-216-864-11	METAL CHIP 0 5%	1/16W
R970	1-216-805-11	METAL CHIP 47 5%	1/16W
R971	1-216-841-11	METAL CHIP 47 5%	1/16W
R972	1-216-805-11	METAL CHIP 47 5%	1/16W
R973	1-216-857-11	METAL CHIP 1M 5%	1/16W
R974	1-216-864-11	METAL CHIP 0 5%	1/16W
R975	1-216-864-11	METAL CHIP 0 5%	1/16W
R978	1-216-841-11	METAL CHIP 47K 5%	1/16W
R979	1-216-841-11	METAL CHIP 47K 5%	1/16W
R980	1-216-864-11	METAL CHIP 0 5%	1/16W
R981	1-216-829-11	METAL CHIP 4.7K 5%	1/16W
< VARIABLE RESISTOR >			
RV701	1-225-224-11	RES, VAR (ZOOM) 10K (ZOOM)	
< SWITCH >			
S701	1-771-128-11	SWITCH, TACTILE (CONTROL)	
S702	1-572-467-21	SWITCH, PUSH (1 KEY) (POWER)	
S703	1-771-106-11	SWITCH, TACTILE (PICTURE EFFECT)	
S704	1-771-106-11	SWITCH, TACTILE (DISPLAY)	
S705	1-771-106-11	SWITCH, TACTILE (FLASH)	
S706	1-771-106-11	SWITCH, TACTILE (BRIGHT +)	
S707	1-771-106-11	SWITCH, TACTILE (PROGRAM AE)	
S708	1-762-741-11	SWITCH, SLIDE (PLAY/CAMERA)	
S709	1-771-106-11	SWITCH, TACTILE (BRIGHT -)	
S710	1-762-741-11	SWITCH, SLIDE (LCD BACKLIGHT)	
< TRANSFORMER >			
△ T851	1-431-861-21	TRANSFORMER, INVERTER	

Ref. No.	Part No.	Description	Remark
	A-7093-881-A	PK-43 (SHARP) BOARD, COMPLETE (SERVICE)	

(Ref.No.:2,000 Series)			
< BATTERY HOLDER >			
BH701	1-550-104-32	HOLDER, BATTERY	
< BUZZER >			
BZ701	1-529-107-11	BUZZER, PIEZOELECTRIC	
< CAPACITOR >			
C601	1-109-982-11	CERAMIC CHIP 1uF 10%	10V
C602	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C603	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C604	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C605	1-113-642-11	TANTAL. CHIP 47uF 20%	10V
C606	1-113-642-11	TANTAL. CHIP 47uF 20%	10V
C701	1-113-991-11	TANTAL. CHIP 33uF 20%	16V
C702	1-107-682-11	CERAMIC CHIP 1uF 10%	16V
C703	1-165-320-11	CERAMIC CHIP 0.47uF 10%	16V
C801	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C802	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C803	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C804	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C805	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C806	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C807	1-110-569-11	TANTAL. CHIP 47uF 20%	6.3V
C808	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C810	1-104-851-11	TANTAL. CHIP 10uF 20%	10V
C811	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C812	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C813	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C814	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C815	1-104-851-11	TANTAL. CHIP 10uF 20%	10V
C851	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C852	1-113-981-11	TANTAL. CHIP 22uF 20%	20V
C853	1-163-081-00	CERAMIC CHIP 0.22uF 25V	
C854	1-135-149-21	TANTALUM CHIP 2.2uF 20%	10V
C855	1-164-505-11	CERAMIC CHIP 2.2uF 16V	
C856	1-162-918-11	CERAMIC CHIP 18PF 5%	50V
C857	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V
C858	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C859	1-162-920-11	CERAMIC CHIP 27PF 5%	50V
C861	1-104-911-11	TANTAL. CHIP 33uF 20%	10V
C862	1-164-346-11	CERAMIC CHIP 1uF 16V	
C863	1-164-661-11	CERAMIC CHIP 0.018uF 10%	50V
C865	1-107-725-11	CERAMIC CHIP 0.1uF 10%	16V
△ C866	1-113-521-11	CERAMIC CHIP 12PF 10%	3KV
C867	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C902	1-107-687-11	TANTAL. CHIP 3.3uF 20%	20V
C903	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C904	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C905	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C906	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V

Note :

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Note :

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

PK-43 (SHARP)

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
C907	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	Q701	8-729-037-52	TRANSISTOR	2SD2216J-QR(K8).SO		
C908	1-162-926-11	CERAMIC CHIP	82PF	5%	50V	Q702	8-729-037-52	TRANSISTOR	2SD2216J-QR(K8).SO		
C909	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	Q851	8-729-042-72	TRANSISTOR	UN9214J-(K8).SO		
C911	1-164-739-11	CERAMIC CHIP	560PF	5%	50V	Q852	8-729-042-59	TRANSISTOR	UN9112J-(K8).SO		
C913	1-162-926-11	CERAMIC CHIP	82PF	5%	50V	Q853	8-729-037-74	TRANSISTOR	UN9213J-(K8).SO		
C915	1-107-682-11	CERAMIC CHIP	1uF	10%	16V	Q854	8-729-037-52	TRANSISTOR	2SD2216J-QR(K8).SO		
C916	1-113-994-11	TANTAL. CHIP	6.8uF	20%	16V	Q855	8-729-037-74	TRANSISTOR	UN9213J-(K8).SO		
C917	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	Q856	8-729-823-84	TRANSISTOR	FP102-TL		
C918	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	Q857	8-729-037-52	TRANSISTOR	2SD2216J-QR(K8).SO		
C919	1-107-689-21	TANTAL. CHIP	1uF	20%	35V	Q858	8-729-037-52	TRANSISTOR	2SD2216J-QR(K8).SO		
C920	1-107-682-11	CERAMIC CHIP	1uF	10%	16V	Q859	8-729-037-74	TRANSISTOR	UN9213J-(K8).SO		
C925	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	Q860	8-729-039-43	TRANSISTOR	FP216-TL		
C926	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	Q862	8-729-042-59	TRANSISTOR	UN9112J-(K8).SO		
< CONNECTOR >						Q903	8-729-230-63	TRANSISTOR	2SD1819A-QRS-TX		
CN601	1-764-526-11	CONNECTOR, FFC/FPC 18P				Q904	8-729-420-24	TRANSISTOR	2SB1218A-QRS-TX		
* CN602	1-750-075-11	CONNECTOR, FFC/FPC 10P				Q905	8-729-230-63	TRANSISTOR	2SD1819A-QRS-TX		
CN603	1-778-598-21	CONNECTOR, BOARD TO BOARD 60P				Q906	8-729-420-24	TRANSISTOR	2SB1218A-QRS-TX		
CN802	1-764-526-11	CONNECTOR, FFC/FPC 18P				< RESISTOR >					
CN851	1-573-929-11	CONNECTOR, FFC/FPC (ZIF) 20P				R601	1-216-033-00	METAL CHIP	220	5%	1/10W
CN901	1-691-388-11	CONNECTOR, FFC/FPC (ZIF) 24P				R602	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
< DIODE >						R603	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
D701	8-719-061-82	DIODE TLSU1002(TPX1,SONY) (ACCESS)				R604	1-216-845-11	METAL CHIP	100K	5%	1/16W
D702	8-719-061-81	DIODE TLYU1002(TPX1,SONY) (FLASH CHARG)				R605	1-216-298-00	METAL CHIP	2.2	5%	1/10W
D852	8-719-404-49	DIODE MA111-TX				R606	1-218-707-11	RES,CHIP	4.3K	5%	1/16W
D853	8-719-404-49	DIODE MA111-TX				R607	1-218-707-11	RES,CHIP	4.3K	5%	1/16W
D854	8-719-404-49	DIODE MA111-TX				R608	1-216-864-11	METAL CHIP	0	5%	1/16W
D903	8-713-102-80	DIODE 1T369-01-T8A				R610	1-216-864-11	METAL CHIP	0	5%	1/16W
D904	8-719-976-96	DIODE MA8047-H-TX				R612	1-218-851-11	RES,CHIP	1.5K	0.50%	1/16W
D905	8-713-102-80	DIODE 1T369-01-T8A				R613	1-218-869-11	RES,CHIP	8.2K	0.50%	1/16W
< IC >						R614	1-218-863-11	RES,CHIP	4.7K	0.50%	1/16W
IC601	8-759-535-05	IC BH9530KS2				R615	1-218-859-11	RES,CHIP	3.3K	0.50%	1/16W
IC801	8-759-530-19	IC MB40D001PFV-G-BND-ER				R618	1-218-887-11	RES,CHIP	47K	0.50%	1/16W
IC802	8-759-486-77	IC IR3Y37M4				R619	1-218-849-11	RES,CHIP	1.2K	0.50%	1/16W
IC851	8-759-521-35	IC TL5001CDR				R620	1-216-821-11	METAL CHIP	1K	5%	1/16W
IC852	8-759-075-70	IC TA75S393F-TE85R				R621	1-218-847-11	RES,CHIP	1K	0.50%	1/16W
IC901	8-759-495-00	IC LZ9GH184				R622	1-218-875-11	RES,CHIP	15K	0.50%	1/16W
IC902	8-759-327-01	IC NJM062V(TE2)				R623	1-218-292-11	RES,CHIP	20K	5%	1/16W
IC903	8-759-523-03	IC TC74HC4066AFS-EL				R624	1-216-817-11	METAL CHIP	470	5%	1/16W
< COIL >						R625	1-216-833-11	METAL CHIP	10K	5%	1/16W
L601	1-414-394-11	INDUCTOR 2.2uH				R626	1-216-835-11	METAL CHIP	15K	5%	1/16W
L701	1-412-067-21	INDUCTOR CHIP 330uH				R627	1-216-833-11	METAL CHIP	10K	5%	1/16W
L801	1-414-402-11	INDUCTOR 47uH				R628	1-216-835-11	METAL CHIP	15K	5%	1/16W
L802	1-414-078-11	INDUCTOR 10uH				R629	1-216-835-11	METAL CHIP	15K	5%	1/16W
L851	1-414-396-21	INDUCTOR 4.7uH				R630	1-216-833-11	METAL CHIP	10K	5%	1/16W
L852	1-424-674-11	INDUCTOR 0uH				R631	1-216-857-11	METAL CHIP	1M	5%	1/16W
L853	1-409-536-41	INDUCTOR 0uH				R632	1-216-833-11	METAL CHIP	10K	5%	1/16W
L901	1-414-754-11	INDUCTOR 10uH				R701	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
L902	1-414-754-11	INDUCTOR 10uH				R702	1-216-819-11	METAL CHIP	680	5%	1/16W
L903	1-412-951-11	INDUCTOR 10uH				R703	1-216-819-11	METAL CHIP	680	5%	1/16W
L905	1-412-953-11	INDUCTOR 15uH				R705	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
< TRANSISTOR >						R706	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
						R707	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
						R708	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
						R709	1-216-851-11	METAL CHIP	330K	5%	1/16W
						R710	1-216-847-11	METAL CHIP	150K	5%	1/16W
						R711	1-216-829-11	METAL CHIP	4.7K	5%	1/16W

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R712	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	R927	1-216-864-11	METAL CHIP	0	5%	1/16W
R713	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	R929	1-216-845-11	METAL CHIP	100K	5%	1/16W
R714	1-216-815-11	METAL CHIP	330	5%	1/16W	R930	1-216-839-11	METAL CHIP	33K	5%	1/16W
R715	1-216-826-11	METAL CHIP	2.7K	5%	1/16W	R931	1-216-864-11	METAL CHIP	0	5%	1/16W
R716	1-216-826-11	METAL CHIP	2.7K	5%	1/16W	R932	1-216-845-11	METAL CHIP	100K	5%	1/16W
R717	1-216-841-11	METAL CHIP	47K	5%	1/16W	R933	1-216-845-11	METAL CHIP	100K	5%	1/16W
R801	1-216-864-11	METAL CHIP	0	5%	1/16W	R934	1-216-864-11	METAL CHIP	0	5%	1/16W
R804	1-216-837-11	METAL CHIP	22K	5%	1/16W	R935	1-216-864-11	METAL CHIP	0	5%	1/16W
R805	1-216-834-11	METAL CHIP	12K	5%	1/16W	R938	1-216-845-11	METAL CHIP	100K	5%	1/16W
R806	1-216-841-11	METAL CHIP	47K	5%	1/16W	R939	1-216-839-11	METAL CHIP	33K	5%	1/16W
R812	1-216-845-11	METAL CHIP	100K	5%	1/16W	R940	1-216-864-11	METAL CHIP	0	5%	1/16W
R813	1-216-805-11	METAL CHIP	47	5%	1/16W	R941	1-218-883-11	RES,CHIP	33K	0.50%	1/16W
R814	1-216-805-11	METAL CHIP	47	5%	1/16W	R942	1-218-879-11	RES,CHIP	22K	0.50%	1/16W
R815	1-216-805-11	METAL CHIP	47	5%	1/16W	R943	1-218-883-11	RES,CHIP	33K	0.50%	1/16W
R816	1-216-833-11	METAL CHIP	10K	5%	1/16W	R944	1-218-879-11	RES,CHIP	22K	0.50%	1/16W
R822	1-216-840-11	METAL CHIP	39K	5%	1/16W	R945	1-216-864-11	METAL CHIP	0	5%	1/16W
R823	1-216-834-11	METAL CHIP	12K	5%	1/16W	R946	1-216-864-11	METAL CHIP	0	5%	1/16W
R826	1-216-864-11	METAL CHIP	0	5%	1/16W	R947	1-216-864-11	METAL CHIP	0	5%	1/16W
R827	1-216-835-11	METAL CHIP	15K	5%	1/16W	R948	1-216-864-11	METAL CHIP	0	5%	1/16W
R828	1-216-839-11	METAL CHIP	33K	5%	1/16W	R949	1-216-864-11	METAL CHIP	0	5%	1/16W
R852	1-218-867-11	RES,CHIP	6.8K	0.50%	1/16W	R956	1-216-864-11	METAL CHIP	0	5%	1/16W
R853	1-218-881-11	RES,CHIP	27K	0.50%	1/16W	R958	1-216-864-11	METAL CHIP	0	5%	1/16W
R854	1-218-897-11	RES,CHIP	120K	0.50%	1/16W	R960	1-216-864-11	METAL CHIP	0	5%	1/16W
R855	1-216-818-11	METAL CHIP	560	5%	1/16W	R961	1-216-864-11	METAL CHIP	0	5%	1/16W
R856	1-216-837-11	METAL CHIP	22K	5%	1/16W	R964	1-216-864-11	METAL CHIP	0	5%	1/16W
R857	1-216-818-11	METAL CHIP	560	5%	1/16W	R965	1-216-864-11	METAL CHIP	0	5%	1/16W
R858	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	R967	1-216-805-11	METAL CHIP	47	5%	1/16W
R859	1-218-871-11	RES,CHIP	10K	0.50%	1/16W	R968	1-216-805-11	METAL CHIP	47	5%	1/16W
R860	1-218-854-11	RES,CHIP	2K	0.50%	1/16W	R969	1-216-805-11	METAL CHIP	47	5%	1/16W
R861	1-218-859-11	RES,CHIP	3.3K	0.50%	1/16W	R973	1-216-857-11	METAL CHIP	1M	5%	1/16W
R862	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	R974	1-216-864-11	METAL CHIP	0	5%	1/16W
R863	1-216-841-11	METAL CHIP	47K	5%	1/16W	R975	1-216-864-11	METAL CHIP	0	5%	1/16W
R864	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	R978	1-216-841-11	METAL CHIP	47K	5%	1/16W
R865	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	R979	1-216-841-11	METAL CHIP	47K	5%	1/16W
R867	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	R980	1-216-864-11	METAL CHIP	0	5%	1/16W
R868	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	R981	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R870	1-216-845-11	METAL CHIP	100K	5%	1/16W	< VARIABLE RESISTOR >					
R871	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	RV701	1-225-224-11	RES, VAR (ZOOM) 10K (ZOOM)			
R872	1-216-837-11	METAL CHIP	22K	5%	1/16W						
R873	1-216-817-11	METAL CHIP	470	5%	1/16W						
R874	1-216-810-11	METAL CHIP	120	5%	1/16W						
R903	1-216-864-11	METAL CHIP	0	5%	1/16W						
R905	1-216-855-11	METAL CHIP	680K	5%	1/16W	S701	1-771-128-11	SWITCH, TACTILE (CONTROL)			
R908	1-216-846-11	METAL CHIP	120K	5%	1/16W	S702	1-572-467-21	SWITCH, PUSH (1 KEY) (POWER)			
R912	1-216-845-11	METAL CHIP	100K	5%	1/16W	S703	1-771-106-11	SWITCH, TACTILE (PICTURE EFFECT)			
R913	1-216-833-11	METAL CHIP	10K	5%	1/16W	S704	1-771-106-11	SWITCH, TACTILE (DISPLAY)			
R914	1-216-857-11	METAL CHIP	1M	5%	1/16W	S705	1-771-106-11	SWITCH, TACTILE (FLASH)			
R915	1-216-857-11	METAL CHIP	1M	5%	1/16W	S706	1-771-106-11	SWITCH, TACTILE (BRIGHT +)			
R916	1-216-837-11	METAL CHIP	22K	5%	1/16W	S707	1-771-106-11	SWITCH, TACTILE (PROGRAM AE)			
R918	1-216-843-11	METAL CHIP	68K	5%	1/16W	S708	1-762-741-11	SWITCH, SLIDE (PLAY/CAMERA)			
R920	1-218-901-11	RES,CHIP	180K	0.50%	1/16W	S709	1-771-106-11	SWITCH, TACTILE (BRIGHT -)			
R921	1-216-843-11	METAL CHIP	68K	5%	1/16W	S710	1-762-741-11	SWITCH, SLIDE (LCD BACKLIGHT)			
R922	1-216-841-11	METAL CHIP	47K	5%	1/16W	< TRANSFORMER >					
R924	1-218-901-11	RES,CHIP	180K	0.50%	1/16W	△ T851	1-431-861-21	TRANSFORMER, INVERTER			
R926	1-216-829-11	METAL CHIP	4.7K	5%	1/16W						

Note :

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Note :

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
	A-7073-591-A	RL-50 BOARD, COMPLETE ***** (Ref.No.:1,000 Series)	
		< CONNECTOR >	
CN051	1-770-620-21	PIN, CONNECTOR 3P	
		< SWITCH >	
S051	1-771-184-11	SWITCH, TACTILE (SHUTTER)	
		MISCELLANEOUS *****	
11	1-694-297-11	TERMINAL BOARD, BATTERY	
△ 13	1-475-832-11	FLASH UNIT	
14	1-475-842-11	MF BLOCK	
16	1-958-849-11	HARNESS (FF-188)	
57	1-759-679-11	DRIVE, FLOPPY DISK (3.5inch) (Note 1)	
68	1-670-486-21	FP-35 FLEXIBLE BOARD	
101	1-758-177-11	LENS, ZOOM (VCL-4210VD)	
102	1-670-487-11	FP-34 FLEXIBLE BOARD	
106	1-758-204-11	FILTER BLOCK, OPTICAL	
IC401	A-7030-901-A	CCD BLOCK ASSY	
LCD901	1-803-036-21	INDICATOR MODULE, LIQUID CRYSTAL (SHARP)	
LCD901	1-803-184-21	INDICATOR MODULE, LIQUID CRYSTAL (CASIO)	
M901	3-709-404-01	MOTOR UNIT, FOCUS	
M902	3-709-403-01	MOTOR UNIT, ZOOM	
△ ND801	1-517-787-11	TUBE, FLUORESCENT, COLD CATHODE	
		ACCESSORIES & PACKING MATERIALS *****	
△	1-555-074-21	CORD, POWER (AUS)	
△	1-559-437-11	CORD, POWER 2P (JE)	
△	1-569-008-21	ADAPTOR, CONVERSION 2P (E)	
△	1-573-856-11	ADAPTOR, CHANGE (JE)	
△	1-769-608-11	CORD, POWER (AEP, UK, E, HK)	
△	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK, HK)	
△	1-775-549-21	CORD, POWER (US, CND)	
	3-862-986-11	MANUAL, INSTRUCTION (ENGLISH, SPANISH)	
	3-862-986-21	MANUAL, INSTRUCTION (CND, AEP, JE) (GERMAN, FRENCH)	
	3-862-986-31	MANUAL, INSTRUCTION (AEP) (ITALIAN, DUTCH)	
	3-862-986-41	MANUAL, INSTRUCTION (PORTUGUESE, RUSSIAN) (AEP, E, HK)	
	3-862-986-51	MANUAL, INSTRUCTION (CHINESE) (E, HK, JE)	
	3-862-986-61	MANUAL, INSTRUCTION (ARABIC, KOREAN) (E, HK, JE)	
	3-862-986-71	MANUAL, INSTRUCTION (SWEDISH) (AEP)	
	3-864-060-11	MANUAL, INSTRUCTION (for BC-V615) (ENGLISH, FRENCH, GERMAN, SPANISH)	
	3-864-060-21	MANUAL, INSTRUCTION (for BC-V615) (ITALIAN, DUTCH, PORTUGUESE, RUSSIAN) (AEP, E, HK)	
	3-864-060-31	MANUAL, INSTRUCTION (for BC-V615) (CHINESE, KOREAN, ARABIC) (E, HK, JE)	

Ref. No.	Part No.	Description	Remark
	3-864-060-41	MANUAL, INSTRUCTION (for BC-V615) (SWEDISH) (AEP)	
	3-987-015-01	BELT (S), SHOULDER	
	X-3948-880-1	CAP ASSY, LENS	
△	A-7029-111-A	BC-V615 AC POWER ADAPTOR	
**	NP-F330	(Note 2)	

Note 1 The FD block assembly is a mechanical unit which has completely been adjusted in the factory. So never disassemble the FD block assembly.

Note 2 ** marked part is available as an optional accessory.

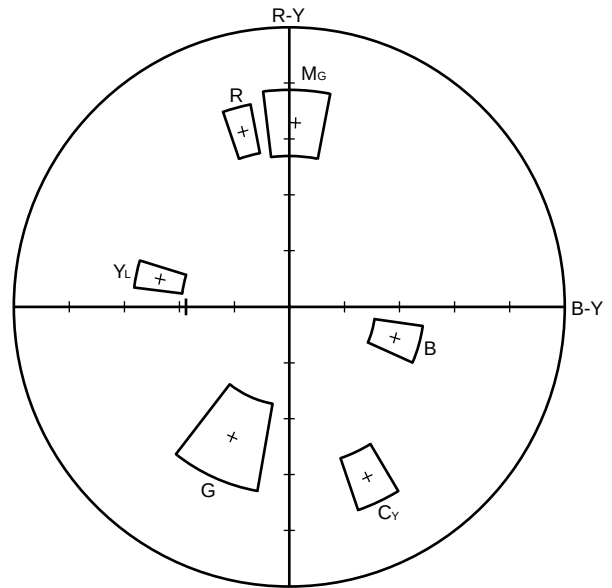
* Be sure to read "Precautions for Replacement of CCD Imager" on page 4-6 when changing the CCD imager.

Note :
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Note :
Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

FOR CAMERA COLOR REPRODUCTION ADJUSTMENT (MVC-FD71)

Take a copy of CAMERA COLOR REPRODUCTION FRAME and Parts reference sheets with a clear sheet for use



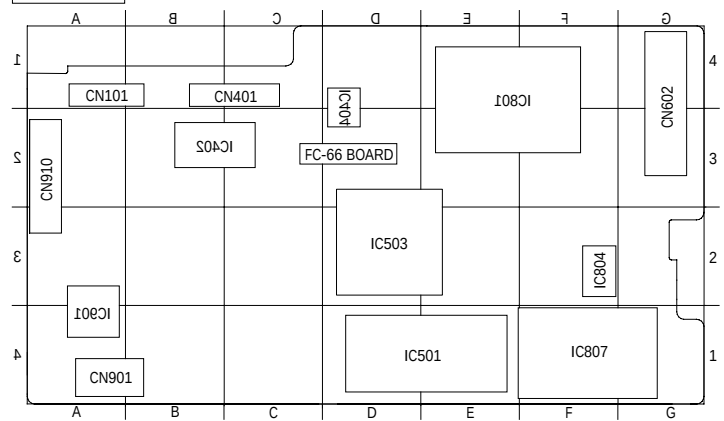
MVC-FD71



<PARTS REFERENCE SHEET>

You can find the parts position of mount locations applying to FC-66 board of a set.

SIDE B



SIDE A



MVC-FD71

SONY®

SERVICE MANUAL

2000. 09

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
Hong Kong Model
Tourist Model

SUPPLEMENT-1

File this supplement with the service manual.
(PV00-005)

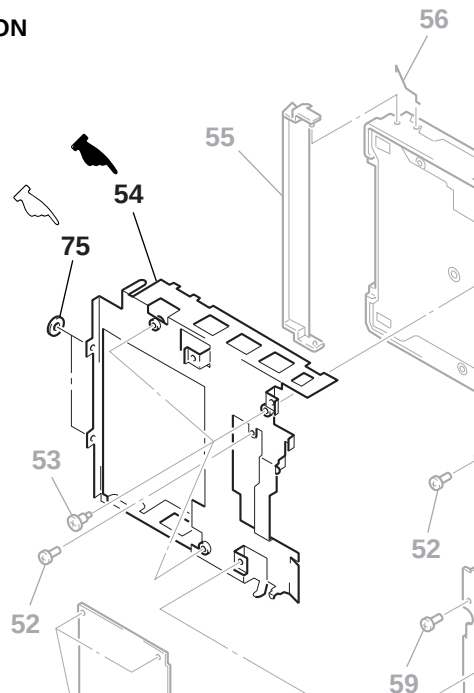
• Change of main frame assy.

 : Points added portion.
 : Points changed portion.

6-1. EXPLODED VIEWS

(Service manual page 6-2)

6-1-2. CABINET (REAR) SECTION



Former Type				New Type			
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
54	X-3948-765-1	FRAME ASSY, MAIN		54	X-3948-765-2	FRAME ASSY, MAIN	
				75	3-055-096-01	WASHER, METAL	